Draft

Initial Study/Mitigated Negative Declaration

San Bernardino County
Land Use Services Department

Planning Division

Plastics Sorting and Processing Facility

Freepoint Eco-Systems Yermo Supply LLC

Yermo, San Bernardino County, California

Lead Agency:

San Bernardino County
Land Use Services Department
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415

Technical assistance provided by:

Tetra Tech, Inc,
301 E. Vanderbilt Way, Suite 450
San Bernardino, California 92408

September 2025

[This page intentionally left blank]

DRAFT

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION 1
SECTION 2 – REGULATORY FRAMEWORK AND PROJECT APPROVALS 4
SECTION 3 – DETAILED PROJECT DESCRIPTION 6
SECTION 4 – ENVIRONMENTAL CHECKLIST FORM 15
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED 17
1. AESTHETICS 18
2. AGRICULTURE AND FORESTRY RESOURCES 20
3. AIR QUALITY 22
4. BIOLOGICAL RESOURCES 29
5. CULTURAL RESOURCES 33
6. ENERGY 36
7. GEOLOGY AND SOILS 41
8. GREENHOUSE GAS EMISSIONS 45
9. HAZARDS AND HAZARDOUS MATERIALS 48
10. HYDROLOGY AND WATER QUALITY 52
11. LAND USE AND PLANNING 56
12. MINERAL RESOURCES 58
13. NOISE 59
14. POPULATION AND HOUSING 61
15. PUBLIC SERVICES 62
16. RECREATION 64
17. TRANSPORTATION 65
18. TRIBAL CULTURAL RESOURCES 70
19. UTILITIES AND SERVICE SYSTEMS 73
20. WILDFIRE 76
21. MANDATORY FINDINGS OF SIGNIFICANCE 78
SECTION 5 – SUMMARY OF MITIGATION MEASURES 81
SECTION 6 – REFERENCES 84

DRAFT

TABLES

Table 1. MDAQMD Air Quality Significance Thresholds 24
Table 2. Project Construction and Operation Emissions of Criteria Pollutants 26
Table 3. Construction Off-Road Equipment Energy Consumption Summary 38
Table 4. Annual Project Energy Consumption 39
Table 5. Project Greenhouse Gas Construction and Operation Emissions 46
Table 6. Land Use and Zoning 56
Table 7. Total Project Trips, Vehicles (Trucks) and Passenger Car Equivalents 66
Table 8. Unincorporated San Bernardino County Baseline Vehicle Miles Traveled per Employee 67
Table 9. Project Vehicle Miles Traveled per Employee 67
Table 10. Cumulative Boundary Vehicle Miles Traveled 68

FIGURES

Figure 1. Regional Location 3
Figure 2. Project Location 8
Figure 3. Grading Plan 9
Figure 4. Site Plan 10
Figure 5. Architectural Plan 13
Figure 6. Architectural Elevations 14

APPENDICES

APPENDIX A: CALEEMOD Air Quality and Greenhouse Gas Model Output
APPENDIX B: Biological Reconnaissance and Habitat Assessment Report
APPENDIX C: Cultural Resources Survey Report
APPENDIX D: Phase I Environmental Assessment Report
APPENDIX E: Preliminary Drainage Study
APPENDIX F: Acoustic Assessment
APPENDIX G: Project Trip Generation Report
APPENDIX H: Vehicle Miles Traveled Technical Memorandum

DRAFT

SECTION 1 – INTRODUCTION

Freepoint Eco-Systems Yermo Supply LLC (hereinafter referred to as the "Applicant" or "Freepoint"), has submitted an application for a Conditional Use Permit (CUP) to the San Bernardino County Land Use Services Department ("the County") for a Plastics Sorting and Processing Facility (hereinafter referred to as the "Project," the "proposed Project," or the "Facility") in the unincorporated town of Yermo, located at 37265 Yermo Road, Yermo, San Bernardino County, California (Figure 1). The Applicant is proposing to develop the Facility to recover waste plastics for recycling. Recovered waste plastics would be sorted at the Facility and bundled for transport to a separate facility being permitted and constructed in Eloy, Arizona (hereinafter referred to as the "Arizona facility"). The recovered waste plastics bundled at the Yermo Facility would initially be transported to the Arizona facility via semi-trucks. Once a rail spur connecting the Facility to the Union Pacific rail line south of the proposed location is constructed, the recovered plastics would be shipped to the Arizona facility by rail.

Project Purpose and Need

The Applicant's objective is to provide a solution for recycling plastics that are otherwise destined for landfill or incineration. The proposed Facility would process post-industrial waste that is almost 100 percent usable plastic feedstock, and sort post-consumer materials received from Material Recovery Facilities (MRFs) that are anticipated to have at least 85 percent usable feedstock. Plastic materials received from MRFs may be bales of products like film plastics, rigid plastics, high-density polyethylene (HDPE), or polypropylene (PP). Other post-consumer materials that may be received from MRFs include residue bales, which may be composed of 50 percent to 70 percent usable plastic feedstock and other recyclable materials. The processed plastics would then be shipped to the Arizona facility. Other recyclable materials such as old corrugated containers (OCC), ferrous metals, and non-ferrous metals would be collected by traditional mechanical third-party recyclers. Any residual, or unusable material would be trucked off-site for disposal at an area landfill, such as the Barstow Landfill located to the west of the Facility. Other landfills that may be used for disposal of residuals include the Landers Sanitary Landfill, San Timoteo Sanitary Landfill, Mid-Valley Sanitary Landfill and Victorville Sanitary Landfill.

Initial Study Organization

This Initial Study includes the following:

Section 1 – Introduction: Introduces the Project and Project background, as well as the Project purpose and need.

Section 2 – Regulatory Framework: Provides the regulatory context for the preparation of the Initial Study and a brief summary of the California Environmental Quality Act (CEQA).

Section 3 – Detailed Project Description: Provides essential Project information, such as the Project description, Project location, and figures.

Section 4 – Environmental Checklist Form: Provides essential Project information, followed by an environmental checklist and accompanying analysis for responding to checklist questions. Provides the parameters the County uses when determining level of impact. Also includes:

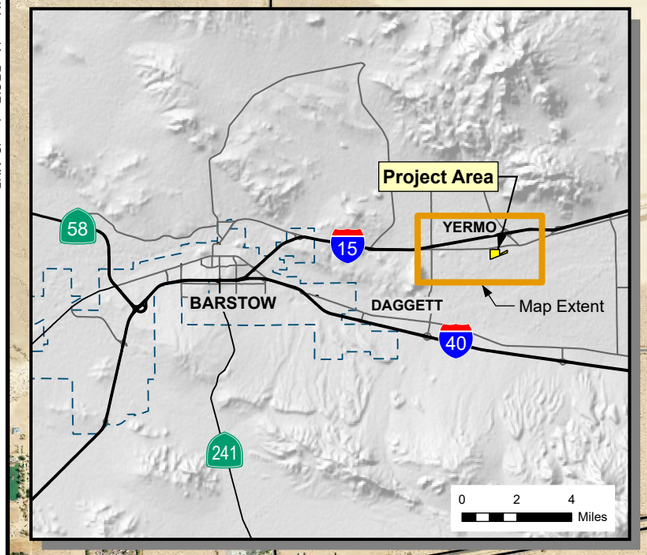
- *Environmental Factors Potentially Affected:* Identifies environmental factors potentially affected by the Project.
- *Lead Agency Determination:* Identifies the Lead Agency's determination of which type of CEQA document would be required for the Project based on the initial evaluation.

Section 5 – Summary of Mitigation Measures: Provides a compilation of mitigation measures identified to reduce impacts to less than significant.

Section 6 – References: Includes a list of references and various resources utilized in preparing the analysis.

DRAFT

G:\Yermo\ArcPRO\Region_IS_MND.aprx



CALICO RD

15

YERMO RD

Project Area

UNION PACIFIC RAIL YARD

DAGGETT YERMO RD

Aerial Photo: NAIP 2022.

N

0 1,500 Feet

Project Area

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 1

Regional Location

TETRA TECH

SECTION 2 – REGULATORY FRAMEWORK AND PROJECT APPROVALS

The County has identified that the proposed Plastics Sorting and Processing Facility meets the CEQA Guidelines Section 15378 definition of a Project. To be a Project, it must require a Discretionary Action by a public agency (i.e., CEQA Lead Agency). In addition, CEQA Guidelines Section 15378 defines a "Project" as the whole of an action, which has a potential to result in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

In accordance with CEQA (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment as a result of the construction, operation, and maintenance of the Facility. In accordance with Section 15063 of the State CEQA Guidelines, this Initial Study is a preliminary analysis, prepared by the County as Lead Agency, to inform the Lead Agency decision makers, other affected agencies, and the public of potential environmental impacts associated with the implementation of the proposed Project.

PROJECT APPROVALS

The following approvals and permits are required from the County to implement the proposed Project:

- Adoption of a Mitigated Negative Declaration with the determination that the Mitigated Negative Declaration has been prepared in compliance with the requirements of CEQA (as amended, June 30, 2025 with the signing of Assembly Bill 130 and Senate Bill 131); and
- Approval of a CUP by the County and County Planning Commission to allow the development of the Project in Yermo, San Bernardino County, California.

Other non-discretionary actions anticipated to be taken by the County at the staff level as part of the Project include:

- Approval of a Variance for a reduced number of parking spaces and removal of the trash enclosure requirement
- Approval of a Right-of-Way Vacation and Abandonment of a portion of Marine Road. A portion of Marine Road is located beneath the proposed location of the Facility building and would be re-routed around the northern edge of the site.
- Quit Claim Deed associated with parcel reconfiguration of the site.
- Grading Permit for grading the Project property area in preparation of construction of the Facility.
- Street Improvement Plan for improvements of Dusty Trail and Marine Road.
- Encroachment permit.
- Septic system permit.
- Underground permit for installation of piping for fire suppression and control devices, plus permit for aboveground fire water tank.
- Hazardous Material Handler permit for diesel and propane above ground storage tanks (ASTs).
- Construction and/or building permits.

Approvals and permits that may be required by other agencies include:

- A Full Solid Waste Facility Permit issued by California Department of Resources Recycling and Recovery (CalRecycle).
- Aboveground Storage Tanks (ASTs) – A 20,000-gallon diesel fuel AST would be installed as part of the Project and would require preparation of a Spill Prevention Control and Countermeasures Plan (SPCC) prepared by a California-registered professional engineer. The AST would require registration with the Hazardous Materials Section of San Bernardino County Fire Protection District, which is a Certified Unified Program Agency (CUPA), with oversight for tank installation and closure. In addition, two 2,000-gallon propane storage tanks would be installed and would require a permit issued by the County Fire Department.
- A Permit to Operate a baghouse dust collector system, which would be issued by Mojave Desert Air Quality Management District (MDAQMD).
- Dust Control Plan for compliance with Rule 403 issued by the MDAQMD.
- Notice of Intent submitted to the Regional Water Quality Control Board-Lahontan Region (RWQCB) to obtain coverage under the most recent Construction Stormwater General Permit.
- A Stormwater Pollution Prevention Plan (SWPPP) for the clearing and grading of more than one acre of land associated with the Project and prepared by a Qualified SWPPP Developer (QSD) or California-registered professional engineer.

DRAFT

SECTION 3 – DETAILED PROJECT DESCRIPTION

Project Location

The Project is located south of Yermo Road, east of Dusty Trail, and north of the Union Pacific Railroad tracks, in the unincorporated town of Yermo, San Bernardino County, California, and addressed as 37265 Yermo Road. It is located in Township 09N, Range 01E, Section 02 of the Yermo U.S. Geological Survey quadrangle (U.S. Geological Survey 2021). The Project sits on a property composed of four (4) existing parcels that are undeveloped desert scrub habitat and are identified as Assessor Parcel Numbers (APNs) 0537-071-15, 16, 17 and 19 (Figure 2). As part of the Project, these existing parcels would be reconfigured and a new parcel of approximately 77.57 acres (5.47 acres in existing right-of-way easements and 72.10 acres of developable lot) would be created following purchase of the land by the Applicant and prior to finalization of the CUP. West of the Project and within 1,000 feet is the Barstow Marine Corps Logistics Base. The property includes half of Dusty Trail, an existing dirt road within a right-of-way easement. The other half of Dusty Trail is owned by the Marine base. To the south of the Project is a Union Pacific railroad switching yard. North of the Project is vacant land. The property adjacent to the Project to the east is predominantly vacant. The southernmost portion of the property (APN 0537-071-19) extends east to the centerline of existing paved Jellico Street, north to the centerline of existing dirt Marine Road, and south to the Union Pacific railroad switching yard.

Construction

The Applicant is proposing the development of the Project to recover plastics for recycling. The Project would consist of a large warehouse estimated to be approximately 424,000 square feet. An 80,000 square foot building extension located on the eastern side of the warehouse and a 39,900 square foot building extension located on the southwest side of the warehouse to be constructed in Phase 2 (Figure 3). The warehouse would contain a staging area for inbound material, sorting and processing equipment, and storage areas for inbound material awaiting processing and outbound material awaiting pickup. The warehouse would be constructed in the southwest corner of the site adjacent to the Union Pacific rail switching yard, so that a rail spur can be constructed and sorted plastics can be unloaded from the building and shipped to the separate facility being permitted and constructed in Eloy, Arizona (the “Arizona facility”). A total of 41.6 acres of the site would require grading. Prior to grading, vegetation at the site would be grubbed off and disposed of as green waste. Grading of the Project property would be completed so that there would be a zero import/export of soil. A total of 225,700 cubic yards of soil would be graded within the Project property.

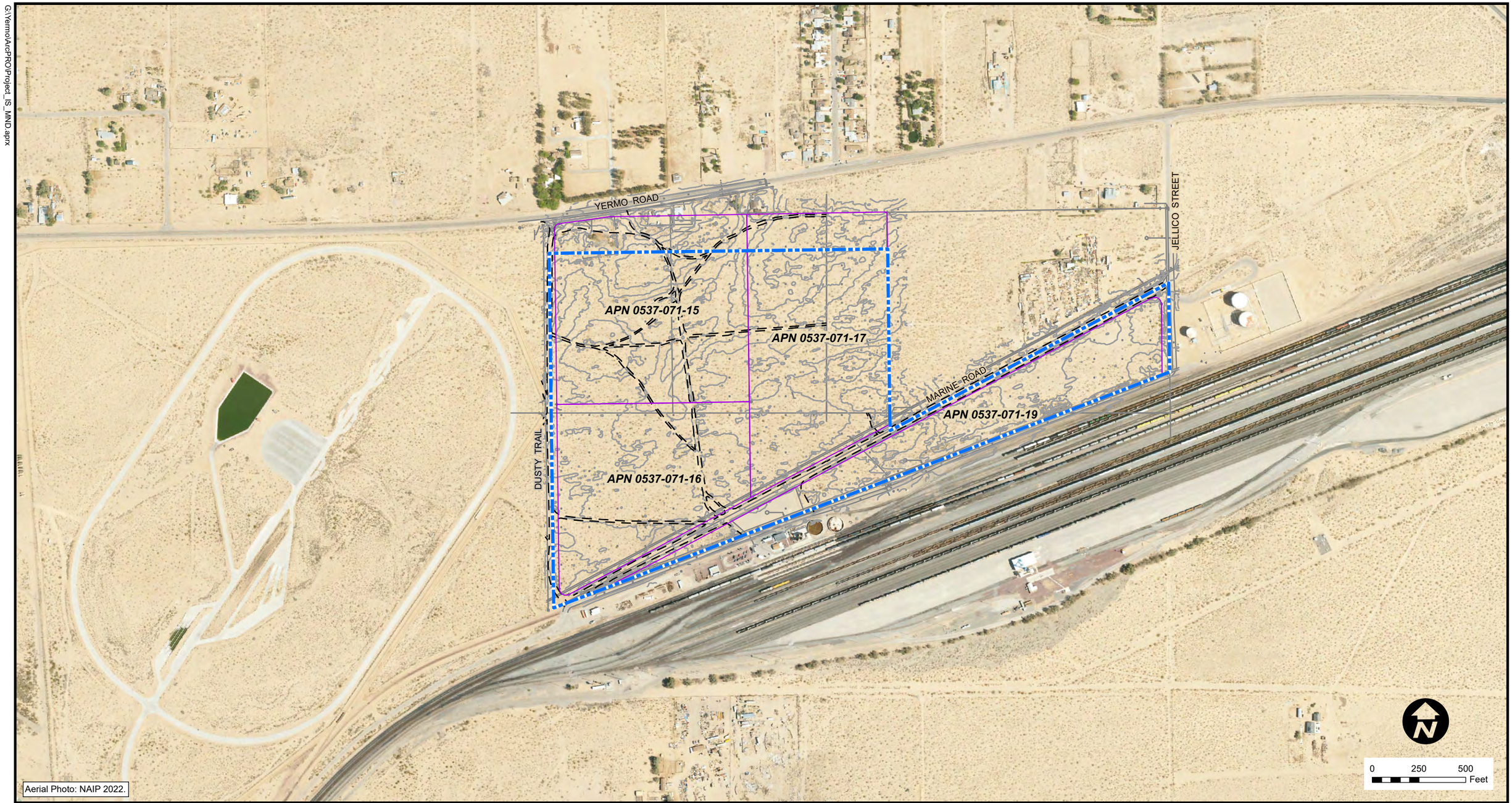
As the warehouse would be constructed in the southwestern corner of the property, a portion of the right-of-way for Marine Road that falls within the warehouse location would need to be vacated. The new route for Marine Road would be to the north and west of the current location to reconnect to Dusty Trail. All road improvements associated with Marine Road and Dusty Trail would be constructed to match existing surface grades and paved per the standards issued by the County.

The warehouse would be designed with an access drive, loading docks, and truck scales on the north side to accommodate trucks (Figure 4). Another proposed improvement would be the construction of a rail spur onto the site to facilitate shipment of outbound product, with a corresponding rail dock on the south side of the warehouse. A parking lot with 82 spaces for employees would be constructed on the west side of the warehouse. There would be no outdoor storage of any materials at this site. Above-

ground propane and diesel storage tanks and a fire water tank would be constructed outdoors inside the truck loop, near the northwest end of the warehouse. For protection of the above-ground storage tanks (ASTs), pipe bollards would be installed around the ASTs. A septic tank and leach field sanitary system would be constructed just north of the parking lot. A stormwater management retention/infiltration facility would be constructed just north of the loading docks. Figure 5 provides an architectural plan for the proposed warehouse and associated infrastructure. Architectural elevations for the proposed warehouse are illustrated as Figure 6. Upon Project approval, construction is expected to take approximately 18 months, and the Applicant anticipates beginning construction in April 2026 with operations to begin around October 2027.

DRAFT

G:\Yermo\ArcPRO\Project_IS_MND.aprx



Assessor Parcel Boundary

Project Area

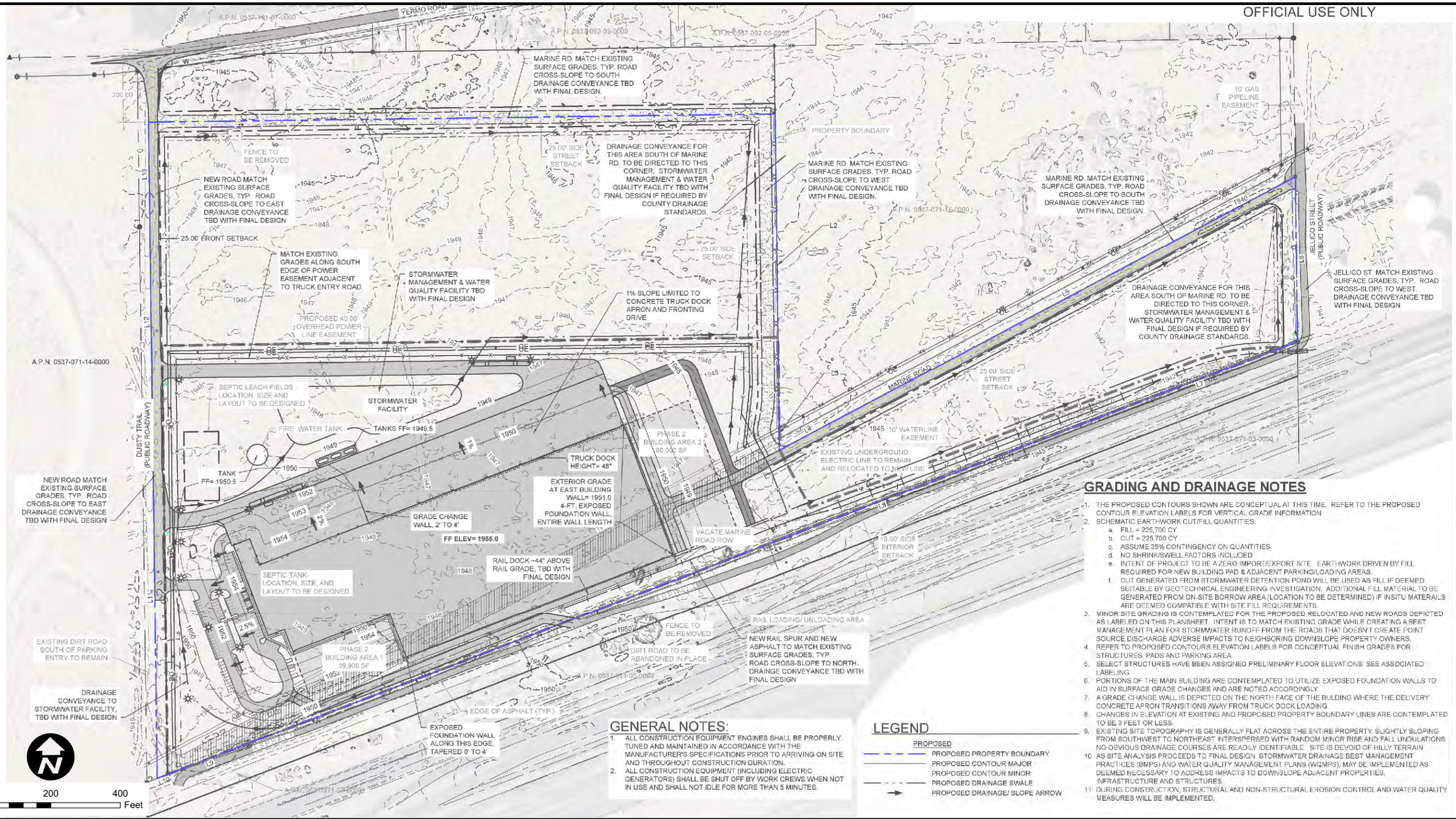
FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 2

Project Location

TETRA TECH

G:\Yermo\ArcPRO\Grading_Plan.aprx



GRADING AND DRAINAGE NOTES

1. THE PROPOSED CONTOURS SHOWN ARE CONCEPTUAL AT THIS TIME. REFER TO THE PROPOSED CONTOUR ELEVATION LABELS FOR VERTICAL GRADE INFORMATION.
2. SCHEMATIC EARTHWORK CUT/FILL QUANTITIES:
   a. FILL = 225,700 CY
   b. CUT = 225,700 CY
   c. ASSUME 35% CONTINGENCY ON QUANTITIES
   d. NO SHRINK/SWELL FACTORS INCLUDED
   e. INTENT OF PROJECT TO BE A ZERO IMPORT/EXPORT SITE. EARTHWORK DRIVEN BY FILL REQUIRED FOR NEW BUILDING PAD & ADJACENT PARKING/LOADING AREAS.
   f. CUT GENERATED FROM STORMWATER DETENTION POND WILL BE USED AS FILL IF DEEMED SUITABLE BY GEOTECHNICAL ENGINEERING INVESTIGATION. ADDITIONAL FILL MATERIAL TO BE GENERATED FROM ON-SITE BORROW AREA (LOCATION TO BE DETERMINED) IF INSITU MATERAILS ARE DEEMED COMPATIBLE WITH SITE FILL REQUIREMENTS.
3. MINOR SITE GRADING IS CONTEMPLATED FOR THE PROPOSED RELOCATED AND NEW ROADS DEPICTED AS LABELED ON THIS PLANSHEET. INTENT IS TO MATCH EXISTING GRADE WHILE CREATING A BEST MANAGEMENT PLAN FOR STORMWATER RUNOFF FROM THE ROADS THAT DOESN'T CREATE POINT SOURCE DISCHARGE ADVERSE IMPACTS TO NEIGHBORING DOWNSLOPE PROPERTY OWNERS.
4. REFER TO PROPOSED CONTOURS ELEVATION LABELS FOR CONCEPTUAL FINISH GRADES FOR STRUCTURES, PADS AND PARKING AREA.
5. SELECT STRUCTURES HAVE BEEN ASSIGNED PRELIMINARY FLOOR ELEVATIONS. SEE ASSOCIATED LABELING.
6. PORTIONS OF THE MAIN BUILDING ARE CONTEMPLATED TO UTILIZE EXPOSED FOUNDATION WALLS TO AID IN SURFACE GRADE CHANGES AND ARE NOTED ACCORDINGLY.
7. A GRADE CHANGE WALL IS DEPICTED ON THE NORTH FACE OF THE BULDING WHERE THE DELIVERY CONCRETE APRON TRANSITIONS AWAY FROM TRUCK DOCK LOADING.
8. CHANGES IN ELEVATION AT EXISTING AND PROPOSED PROPERTY BOUNDARY LINES ARE CONTEMPLATED TO BE 3 FEET OR LESS.
9. EXISTING SITE TOPOGRAPHY IS GENERALLY FLAT ACROSS THE ENTIRE PROPERTY, SLIGHTLY SLOPING FROM SOUTHWEST TO NORTHEAST INTERSPERSED WITH RANDOM MINOR RISE AND FALL UNDULATIONS NO OBVIOUS DRAINAGE COURSES ARE READILY IDENTIFIABLE. SITE IS DEVOID OF HILLY TERRAIN
10. AS SITE ANALYSIS PROCEEDS TO FINAL DESIGN, STORMWATER DRAINAGE BEST MANAGEMENT PRACTICES (BMPS) AND WATER QUALITY MANAGEMENT PLANS (WQMPS), MAY BE IMPLEMENTED AS DEEMED NECESSARY TO ADDRESS IMPACTS TO DOWNSLOPE ADJACENT PROPERTIES, INFRASTRUCTURE AND STRUCTURES.
11. DURING CONSTRUCTION, STRUCTURAL AND NON-STRUCTURAL EROSION CONTROL AND WATER QUALITY MEASURES WILL BE IMPLEMENTED.

GENERAL NOTES:

1. ALL CONSTRUCTION EQUIPMENT ENGINES SHALL BE PROPERLY TUNED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS PRIOR TO ARRIVING ON SITE AND THROUGHOUT CONSTRUCTION DURATION.
2. ALL CONSTRUCTION EQUIPMENT (INCLUDING ELECTRIC GENERATORS) SHALL BE SHUT OFF BY WORK CREWS WHEN NOT IN USE AND SHALL NOT IDLE FOR MORE THAN 5 MINUTES.

LEGEND

PROPOSED

- PROPOSED PROPERTY BOUNDARY
- PROPOSED CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED DRAINAGE SWALE
- PROPOSED DRAINAGE/ SLOPE ARROW

Adapted from:
Site Plan for Conditional Use Permit, San Bernardino County, California, Preliminary Grading and Drainage Plan, Tetra Tech, Inc., 8/20/2025.

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 3

Grading Plan

TETRA TECH

G:\Yermo\ArcPRO\Site_Plan_CAD.aprx

OFFICIAL USE ONLY

DUSTY TRAIL IMPROVEMENTS TO MEET REQUIREMENTS OF COUNTY STANDARD 107, INTERSECTION DESIGN DESERT ROAD, WHERE IT TIES INTO EXISTING YERMO ROAD. (NO IMPROVEMENTS TO YERMO ROAD.)

ADDITIONAL GRANT OF EASEMENT REQUIRED AT INTERSECTION OF DUSTY TRAIL AND YERMO ROAD TO ACCOMMODATE TURN RADIUS, FINAL CONFIGURATION AND DEDICATION TO BE DETERMINED AT THE TIME OF PARCEL RECONFIGURATION

A.P.N. 0537-092-06-0000

YERMO ROAD

A.P.N. 0537-092-04-0000

A.P.N. 0537-101-07-0000

A.P.N. 0537-092-03-0000

A.P.N. 0537-092-05-0000

GATE

R65.00'

R28.00'

2' GRANT OF EASEMENT ALONG YERMO ROAD, TO BE DEDICATED AT THE TIME OF PARCEL RECONFIGURATION.

60.00' ROW

36.00'

25.00' SIDE STREET SETBACK

PROPERTY BOUNDARY

10' GAS PIPELINE EASEMENT

SEE SHEET 9 FOR ENLARGEMENT OF INTERSECTION AND AUTO-TURN ANALYSIS

PROPOSED MARINE ROAD ROW RELOCATION: ROAD DEDICATION: 60' GRANT OF EASEMENT WILL BE PROVIDED TO ALLOW A FULL WIDTH RIGHT-OF-WAY OF 60'. STREET IMPROVEMENTS: GRADED ROAD 36' WIDE PER MODIFIED COUNTY STANDARD 114 (NO CURB/GUTTER AND SIDEWALK REQUIRED)

PROPOSED MARINE ROAD ROW RELOCATION: ROAD DEDICATION: 60' GRANT OF EASEMENT WILL BE PROVIDED TO ALLOW A FILL WIDTH RIGHT-OF-WAY OF 60'. STREET IMPROVEMENTS: GRADED ROAD 36' WIDE PER MODIFIED COUNTY STANDARD 114. (NO CURB/GUTTER AND SIDEWALK REQUIRED)

A.P.N. 0537-071-18-0000

25.00' FRONT SETBACK

25.00' SIDE SETBACK

JELLICO STREET (PUBLIC ROADWAY)

DUSTY TRAIL: STREET IMPROVEMENTS: PAVING TO BE 26' WIDE, ALL WITHIN PROPERTY BOUNDARY. COUNTY STANDARD 104 (NO CURB/GUTTER AND SIDEWALK REQUIRED).

RELOCATION OF POWERLINE TO BE COORDINATED WITH SOCAL EDISON PLANNING DEPARTMENT

60.00'

26.00'

36.00'

PROPOSED 40.00' OVERHEAD POWER LINE EASEMENT

STORMWATER MANAGEMENT & WATER QUALITY FACILITY TBD WITH FINAL DESIGN

PROPOSED SECURITY FENCE

4' GRANT OF EASEMENT ALONG JELLICO ROAD, TO BE DEDICATED AT THE TIME OF PARCEL RECONFIGURATION.

EXISTING MARINE ROAD TO REMAIN: 26' WIDE WITHIN PROPERTY BOUNDARY TO BE PAVED.

A.P.N. 0537-071-14-0000

PROPOSED SECURITY FENCE WITH GATES

26.00'

MARINE ROAD (PUBLIC ROADWAY)

25.00' SIDE STREET SETBACK

SIGN: TRUCK ENTRANCE

SEPTIC LEACH FIELDS - LOCATION, SIZE AND LAYOUT TO BE DESIGNED

STORMWATER FACILITY

DRIVEWAY APPROACHES AND LOCATIONS MEET OR EXCEED COUNTY STANDARDS 129C AND 130

DUSTY TRAIL (PUBLIC ROADWAY)

FIRE WATER TANK

PHASE 2 BUILDING AREA 2 80,000 SF

10' WATERLINE EASEMENT

A.P.N. 0537-071-03-0000

EXISTING UNDERGROUND ELECTRIC LINE TO REMAIN AND RELOCATED TO NEW LINE

PAVEMENT

PHASE 1 BUILDING SEE ARCHITECTURAL PLANS 424,000 SF

PROPOSED SECURITY FENCE WITH GATES

EXISTING POWERLINE & GUY WIRE TO BE REMOVED

10.00' SIDE INTERIOR SETBACK

185.00'

SEPTIC TANK- LOCATION, SIZE, AND LAYOUT TO BE DESIGNED

VACATE MARINE ROAD ROW

ASPHALT

DRIVEWAY APPROACHES AND LOCATIONS MEET OR EXCEED COUNTY STANDARDS 129C AND 130

EMPLOYEE PARKING (SEE SHEET 4)

GATE

PAVEMENT

FENCE TO BE REMOVED

RAIL LOADING/ UNLOADING AREA

PHASE 2 BUILDING AREA 1 39,900 SF

DIRT ROAD TO BE ABANDONED IN PLACE

A.P.N. 0537-071-03-0000

EXISTING DIRT ROAD SOUTH OF PARKING ENTRY TO REMAIN

EDGE OF ASPHALT (TYP.)

ASPHALT

0 200 400 Feet

LEGEND

PROPOSED	EXISTING
PROPOSED PROPERTY BOUNDARY	PROPERTY BOUNDARY
PROPOSED RIGHT-OF-WAY	SECTION LINE
PROPOSED EASEMENT	EASEMENT
PROPOSED SETBACK	RAIL SPUR
PROPOSED RAIL SPUR	MAJOR CONTOUR
PROPOSED OVERHEAD ELECTRIC	MINOR CONTOUR
PROPOSED SECURITY FENCE	BARBED WIRE FENCE
PROPOSED CENTERLINE ROAD STRIPING	CHAIN LINK FENCE
PROPOSED BUILDING	OVERHEAD ELECTRIC
PROPOSED ASPHALT PAVEMENT	UNDERGROUND ELECTRIC
PROPOSED CONCRETE PAVEMENT / SIDEWALK	UNDERGROUND GAS
FIRE ACCESS PHASE I	UNDERGROUND WATERLINE
ENLARGEMENT AREA	

Adapted from:
Site Plan for Conditional Use Permit, San Bernardino County, California, Site Plan, Tetra Tech, Inc., 8/20/2025.

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 4

Site Plan

TETRA TECH

Operations

Trucks would be used to transport post-industrial waste from manufacturers and post-consumer material from MRFs in the southern California region to the Project. Post-industrial waste is generally clean material that results from manufacturing waste and is expected to be almost 100 percent usable plastic feedstock that would not require any sorting. Post-consumer material from MRFs could be bales of products like film plastics, rigid plastics, HDPE, or PP. These product bales are expected to have at least 85 percent usable feedstock. Other post-consumer material may be MRF residue bales, which are made up of the residual waste stream from the MRF lines. MRF residue bales are expected to have around 50 percent to 70 percent usable plastic feedstock and other recyclable materials.

The trucks bringing feedstock to the Facility would enter the site from Dusty Trail, travel over an outdoor truck scale located near the entrance to the Facility and then travel as directed by road signage to the truck dock located on the northeastern side of the warehouse. Empty trucks would exit the site back onto Dusty Trail, travel north to Yermo Road and beyond. Once the feedstock is unloaded into the warehouse, the material would be sorted to recover plastic and other recyclables, such as metal and fiber. Plastic would be prepared for shipment to the Arizona facility. The goal is to utilize the adjacent Union Pacific rail to send the plastic feedstock to the Arizona facility; however, there may be an interim period before the rail spur is constructed when the feedstock may need to be delivered to the Arizona facility via truck. Trucks would be loaded from the truck dock, exit the site back onto Dusty Trail, travel north to Yermo and then via various routes to eventually arrive in Eloy, Arizona. Other recyclables diverted from the waste stream, such as old corrugated containers (OCC), ferrous metals, and non-ferrous metals, would be sorted, baled, and then collected by traditional mechanical third-party recycling companies. Any residual, unusable material would be trucked off-site for disposal at an area landfill such as the Barstow Sanitary Landfill, located at 32553 Barstow Road, Barstow, California 92311, approximately 15 miles to the south. Other landfills that may be used for disposing of residuals include the Landers Sanitary Landfill, San Timoteo Sanitary Landfill, Mid-Valley Sanitary Landfill and Victorville Sanitary Landfill.

Once in operation, the Project would employ 50 to 60 people. The Facility would be operated for 24 hours per day, seven days a week (Sunday – Saturday). Approximately 22 to 27 staff members would be on-site for each twelve-hour shift Sunday – Saturday.

Deliveries of material to be sorted would be accepted from 8:00 am to 6:00 pm, Monday – Saturday. It is anticipated that an average of 61 trucks per day would be delivering materials for sorting, each carrying an average of 14 U.S. short tons of material. Any single day with light loaded trucks could result in a peak volume worst case scenario of 86 trucks (assuming all light loads at an average of 10 U.S. short tons per truck).

The Facility would be designed to process and/or sort up to 855 U.S. short tons per day consisting of post-industrial and post-consumer waste. The Applicant has taken a conservative approach and assumes that half of the inbound material (427.5 U.S. short tons per day) would be recovered and diverted from the waste stream as a feedstock product for the Arizona facility, and the other half (427.5 U.S. short tons per day) would either be sold to traditional recycling companies or sent off-site for disposal at an area landfill. The Applicant estimates 6,650 hours per year for equipment runtime (19 hours per day, seven days per week, 50 weeks per year).

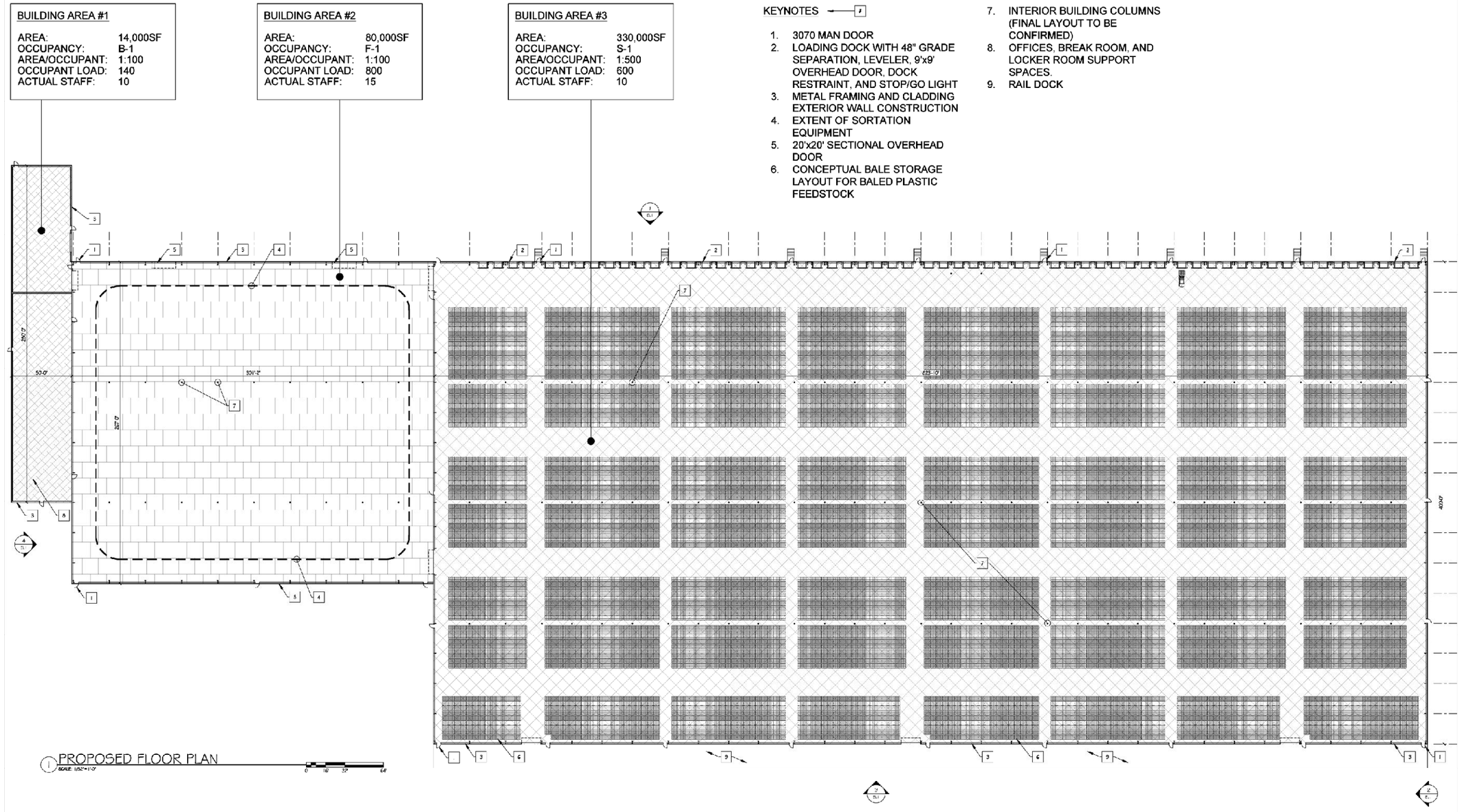
The residue stream, the material that comes out of the backend of the sorting equipment that is destined for landfill, would be trucked from the site between 8:00 am to 6:00 pm, Monday – Saturday

(depending on landfill hours of operation). It is anticipated that up to 31 trucks would move baled plastics to the Arizona facility for additional processing, and 31 trucks would be moving the remaining materials for additional processing or to a landfill. Once systems are in place to utilize the rail spur, outbound waste plastics destined for the Arizona facility are expected to be transported entirely via rail, so there would only be 31 outbound trucks taking the other recyclable materials and residue material off-site.

Once the rail spur is constructed, the rail operations would be served by Union Pacific and are anticipated to run up to five days per week. Union Pacific can drop approximately 14 inbound cars at a time and can pull approximately 11 outbound cars at a time. The cars would be staged on an inbound (drop) track and an outbound (pull) track that would branch off the proposed rail spur. Cars would be moved to and from the proposed dock track adjacent to the building's rail dock as needed.

DRAFT

G:\Yermo\ArcPRO\Architectural_Plan.aprx



Adapted from:
Feedstock Preparation Facility, Yermo - Floor Plan,
Cambridge Companies, 10/10/2024.

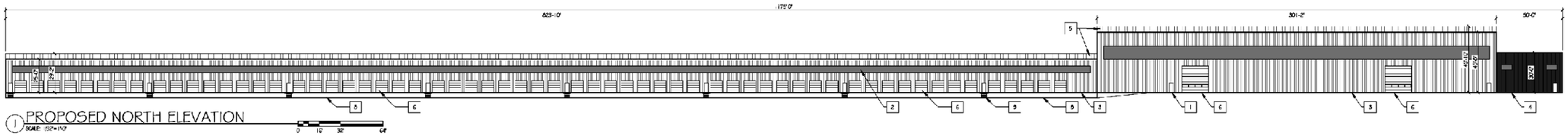
FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 5

Architectural Plan

TETRA TECH

G:\Yermo\ArcPRO\Architectural_Elev.aprx



KEYNOTES

1. 3070 MAN DOOR
2. TRANSLUCENT GLAZING
3. PRE-FINISHED METAL WALL CLADDING
4. INSULATED PANEL METAL WALL CLADDING
5. STANDING SEAM PRE-FINISHED ROOF PANELS
6. SECTIONAL OVERHEAD DOOR
7. CONCRETE RAIL DOCK
8. CONCRETE FOUNDATION AT TRUCK DOCK
9. METAL STAIR TO GRADE
10. INSULATED GLAZING IN ALUMINUM FRAME
11. STOREFRONT ENTRY

Adapted from:
Feedstock Preparation Facility, Yermo - Elevations,
Cambridge Companies, 10/10/2024.

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 6

Architectural Elevations

TETRA TECH

SECTION 4 – ENVIRONMENTAL CHECKLIST FORM

ENVIRONMENTAL CHECKLIST FORM		
1.	**Project Title:**	Plastics Sorting and Processing Facility Freepoint Eco-Systems Yermo Supply LLC Yermo, San Bernardino County, California
2.	**Lead Agency Name:**	San Bernardino County Land Use Services Department
	Address:	385 North Arrowhead Avenue, 1st Floor San Bernardino, California 92415
3.	**Contact Person:**	Elena Barragan, Senior Planner Elena.Barragan@lus.sbcounty.gov (909) 387-4422
4.	**Project Location:**	37265 Yermo Road, Yermo, San Bernardino County
	Topographic Quad (USGS 7.5"):	Yermo 7.5-minute USGS Quadrangle
	Topographic Quad Coordinates:	T09N, R01E, Section 2
	Latitude/Longitude	Latitude: 34° 53' 57.80" N, Longitude: -116° 50' 47.97" W
	Site Access:	Access would be via Dusty Trail from Yermo Road
5.	**Project Sponsor:**	Freepoint Eco-Systems Yermo Supply LLC
	Name and Address:	58 Commerce Road Stamford, CT 06902
6.	**General Plan/Zoning Designation:**	San Bernardino County General Plan Designation: Limited Industrial (LI)/Community Industrial (IC)
7.	**Project Description Summary:**	
	The Applicant, Freepoint Eco-Systems Yermo Supply LLC, is proposing to develop a Plastics Sorting and Processing Facility to recover waste plastics. Waste plastics would be sorted at the Facility and bundled to be transported to a facility located in Eloy, Arizona. Recovered plastics bundled at the Facility would initially be transported to the Arizona facility via semi-trucks. Once a rail spur connecting the Facility to the Union Pacific rail line south of the proposed location is constructed, processed plastics would be shipped to the Arizona facility by rail.	
8.	**Environmental/Existing Site Conditions:**	
	The property where the Project would be constructed is undeveloped desert scrub habitat dominated by creosote bush-white bursage plant community. Dirt roads cross the property. Marine Road, located within the southern portion of the property, is an unimproved dirt road.	

9.	**Surrounding land uses and setting:**
	The site is generally located within an area characterized as rural residential. West of the Project, within 1,000 feet, is the Barstow Marine Corps Logistics Base. To the south of the Project is a Union Pacific railroad switching yard. North of the Project is vacant land. The property adjacent to the Project to the east is predominantly vacant.
10.	**Other public agencies whose approval is required:**
	Federal Agencies: None State Agencies: • Regional Water Quality Control Board-Lahontan Region (RWQCB) • CalRecycle City/County Agencies: • Mojave Desert Air Quality Management District • San Bernardino County Fire Protection District • San Bernardino County Department of Public Health Division of Environmental Health Services Financing Approval or Participation Agreements: (i.e. Federal Funding? Grant Funding? JPA Agreement?): Not applicable
11.	**Have California Native American tribes traditionally affiliated with the Project property requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation?**
	Yes. AB 52 Consultation was initiated on February 10, 2025, and concluded on March 5, 2025. Consultation notification was provided to Twenty-Nine Palms Band of Mission Indians, Colorado River Indians Tribes, Fort Mohave Indian Tribe, Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN), Morongo Band of Mission Indians, and San Gabriel Band of Mission Indians, Tongva. The YSMN requested that the County include specified mitigation measures in Sections 4.5 – Cultural Resources and 4.18 – Tribal Cultural Resources to ensure protection of Tribal Cultural Resources. These mitigation measures have been included.
12.	**Lead Agency Discretionary Actions:**
	The County has the discretion to approve or not approve the proposed action for construction and operation of the Plastics Sorting and Processing Facility at Yermo, California.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact which requires mitigation to be reduced to a level that is less than significant, as indicated in the checklist on the following pages.

☐ Aesthetics	☐ Agricultural / Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology / Soils	☐ Greenhouse Gas Emissions	☒ Hazards / Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☒ Utilities / Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

LEAD AGENCY DETERMINATION

On the basis of this initial evaluation, the following finding is made:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentialty significant unless mitigated" impect on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation meesures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date 10/01/25.

Signature _____ Date 10/1/25

1. AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade an existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

(Check ☐ if project is located within a view-shed of any Scenic Route listed in the General Plan.)

Environmental Setting

The Project property is located within the western Mojave Desert at Yermo, an unincorporated community east of Barstow. Interstate 15 (I-15) is located less than 0.5 miles to the north of the Project property. A Union Pacific rail switching yard is adjacent to the southern side of the Project property. Further south of the Project property is the Mojave River. National Trails Highway/Route 66 and Interstate 40 (I-40) are located more than three miles to the south of the Project property.

Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. Scenic vistas are those areas that offer a beautiful view of natural landscape, often from a high vantage point. Within San Bernardino County, scenic resources are those vistas that highlight the natural environment and reinforce the identity of local communities and the county (San Bernardino County 2022, Policy Map NR-3 Scenic Route & Highways). National Trails Highway/Route 66 has been classified as a county scenic route. I-40 has been classified as a county scenic route and an eligible state scenic highway. I-15 has been classified primarily as a county scenic route and eligible state scenic highway. A portion of I-15 to the north of the Project property has been classified as an eligible state scenic highway. National Trails Highway/Route 66, I-40 and I-15 are not visible from the Project property. With the distance between the Project property and the scenic routes, topographic relief, and existing developments, drivers are not likely to perceive the presence of the proposed Facility warehouse when traveling on I-15, National Trails Highway/Route 66, or I-40. A less than significant impact would occur.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. As indicated in Section 4.1, Item a) above, I-15 is located less than 0.5 miles to the north of the Project property. South of the Project property is the Mojave River. National Trails Highway/Route 66 and I-40 are located more than three miles to the south of the Project property. As such, construction and operation of the proposed Project would not have any impact on resources associated with a county scenic and/or an eligible state scenic highway.

c) *Substantially degrade an existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less than Significant Impact. As discussed in Section 4.1, Item a) above, the proposed Project would not likely be visible from a county scenic and/or an eligible state scenic highway, but could be visible from nearby residences located approximately 1,000 feet or more to the north of the Facility. The Facility warehouse would be constructed adjacent to the Union Pacific rail line switching yard, which includes buildings and railroad infrastructure. As such, the Facility warehouse is likely to visually blend into the background of the Union Pacific switching yard. A less than significant impact would occur.

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less than Significant Impact. Outdoor lighting would be needed once the Facility warehouse is constructed. Lighting would be directed down in compliance with the County Outdoor Lighting Regulations and would not be pointed toward the residential dwellings located north of the Project property. A less than significant impact would occur.

Mitigation Measures

None required.

Aesthetics Impact Conclusions

No significant impacts to aesthetics or scenic resources have been identified or anticipated, and no mitigation measures are required.

2. AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

(Check ☐ if project is located in the Important Farmlands Overlay.)

Environmental Setting

Agriculture has been a critical part of the economy in San Bernardino County, California and has included ranching and farming. While it has declined in the past decades due to urban expansion and economic conditions, agriculture in the region has included active and abandoned alfalfa and Bermuda grass fields, as well as active pistachio orchards (San Bernardino County 2019b).

Impact Analysis

a) *Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The proposed Project property is not identified or designated as Prime Farmlands, Unique Farmland, or Farmland of Statewide Importance as identified by the California Department of Conservation (2022). There are no agricultural uses at the Project property or surrounding properties (San Bernardino County 2022, Policy Map NR-5 Agricultural Resources). No impact would occur.

b) *Conflict with existing zoning for agricultural use or a Williamson Act contract?*

No Impact. The proposed Project property and adjacent facilities are not under a Williamson Act land conservation contract. No impact would occur.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The proposed Project would not conflict with existing zoning for forest land or cause rezoning of forest land, as the Project property is not zoned forest land, is not timberland as defined by Public Resources Code section 4526, and is not timberland zoned Timberland Protection. No impact would occur.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. The proposed Project would not result in the loss of forest land or the conversion of forest land to non-forest use, as the proposed Project property is not forest land. No impact would occur.

e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. As the proposed Project property and adjacent properties have not been identified or designated as Prime Farmlands, Unique Farmland, Farmland of Statewide Importance, or forest land, construction of the proposed Project would not cause a loss to these resources. No impact would occur.

Mitigation Measures

None required.

Agriculture and Forestry Services Impact Conclusions

No significant impacts to agriculture or forestry services resources have been identified or anticipated, and no mitigation measures are required.

DRAFT

3. AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

(Discuss conformity with the South Coast Air Quality Management Plan, if applicable.)

Environmental Setting

Pursuant to the Clean Air Act Amendments of 1990, the USEPA has established National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The NAAQS are classified as primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air and are required to protect public health. Secondary standards specify levels of air quality required to protect public welfare, including materials, soils, vegetation, and wildlife, from any known or anticipated adverse effects. NAAQS are established for six pollutants (known as criteria pollutants): ozone (O_3), particle pollution (i.e., respirable particulate matter less than 10 microns in diameter [PM_{10}] and respirable particulate matter less than 2.5 microns in diameter [$PM_{2.5}$]), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). The California Air Resources Board (CARB) has also established its own air quality standards in the state of California, known as the California Ambient Air Quality Standards (CAAQS). The CAAQS are generally more stringent than the NAAQS and include air quality standards for all the criteria pollutants listed under NAAQS, plus sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particulate matter.

The USEPA classifies the air quality within an Air Quality Control Region with regard to its attainment of federal primary and secondary NAAQS. An area with air quality better than the NAAQS for a specific pollutant is designated as being in attainment for that pollutant. Any area not meeting the NAAQS is classified as a nonattainment area. Where there is a lack of data for the USEPA to make a determination regarding attainment or nonattainment, the area is designated as unclassified and is treated as an attainment area until proven otherwise. Similarly, the CARB makes state area designations for the state criteria pollutants.

The proposed Project is in the unincorporated town of Yermo within San Bernardino County, which is subject to the MDAQMD regulations. Pollutant concentrations within the San Bernardino County are assessed relative to both the federal and state ambient air quality standards. The portion of San Bernardino County where the Project is located is in attainment for all Federal criteria pollutants except for O_3 and PM_{10}, and is in attainment for all State criteria except O_3 and PM_{10} (California Air Resources Board 2023).

Applicable MDAQMD rules are summarized as follows:

- *Rule 401 Visible Emissions:* this rule provides limits for the Visible Emissions from sources within the MDAQMD.
- *Rule 402 Nuisance:* this rule prohibits the discharge, from any source whatsoever, such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- *Rule 403 Fugitive Dust Control:* requires control measures for fugitive dust from active operations, open storage piles, or disturbed surface areas. Rule 403 also prescribes best available control measures applicable to construction activity sources.

Impact Analysis

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Less Than Significant Impact. The federal CAA requires states to develop plans, known as State Implementation Plans (SIPs), stating how they will attain or maintain NAAQS. SIPs are compilations of new and previously approved plans, programs, district rules, state regulations and federal controls. States and local air quality management agencies prepare SIPs for approval by the USEPA. The MDAQMD SIP is contained within the agency's Rules and Regulations and Plans. To ensure continued progress toward clean air and to reach federal and state compliance requirements, the MDAQMD has prepared various plans presenting comprehensive pollution control strategies aimed at attaining San Bernardino County's ozone and PM standards as required by the Clean Air Act Amendments of 1990. The most recent plans addressing PM and O_3 are, respectively, the 2020 Certification of District Measures to Reduce PM Pursuant to Former Health & Safety Code Section 39614(d), and the Federal 70 PPB Ozone Attainment Plan (Mojave Desert Air Quality Management District 2020).

MDAQMD Plan incorporates emissions projections based on the growth forecasts accounted for in local and regional general plans. Local governments maintain the authority to determine the types of land use that are allowed within their jurisdiction. For example, in a city's general plan, each parcel of land within that city is given a land use designation (e.g., residential, industrial, etc.). Land use types that do not comply with general plan designations are considered inconsistent with the general plan, and a proposed project which is inconsistent with a local general plan is also inconsistent with MDAQMD Plan. The proposed Project site's current land use is Community Industrial (IC) and would remain unchanged with the implementation of the proposed Project.

The proposed Project is located in the unincorporated town of Yermo within San Bernardino County, which is subject to the MDAQMD regulations. Typically, only large, regionally significant projects have the potential to affect regional growth projections. The proposed Project is not a regionally significant project which would warrant Intergovernmental Review by the Southern California Association of Governments (SCAG). The proposed Project is not regionally significant, and is not anticipated to conflict with or obstruct implementation of the MDAQMP rules, regulations, or plans. A less than significant impact would occur.

b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less Than Significant Impact. Per CEQA, a project's impact is cumulatively considerable if the incremental effects of the project are significant when viewed in connection with the effects of past

projects, the effects of other current projects, and the effects of probable future projects. CEQA also prescribes that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan (e.g., air quality attainment or maintenance plan) or a mitigation program that provides specific requirements which will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (California Code of Regulations Title 14 §15355). As discussed above, the proposed Project is not anticipated to conflict with or obstruct rules, regulations, or plans designed for air quality attainment. However, the construction and operation of the proposed Project would contribute to air emissions.

To determine the extent to which a project would impact air quality, MDAQMD has established significance thresholds for criteria pollutants generated during construction and operation. A significant impact would occur if the proposed Project would result in construction or operational emissions that exceed the established significance thresholds. Projects with emissions below established thresholds would not have a significant impact on air quality. Projects with emissions equal to or exceeding the established significance threshold would have a potentially significant adverse impact on air quality unless mitigation measures are implemented. A summary of the MDAQMD air quality significance thresholds is presented in Table 1 below.

Table 1. MDAQMD Air Quality Significance Thresholds

Pollutant	Construction Annual (tons)/ Daily (lbs)	Operation Annual (tons)/ Daily (lbs)
NOx	25/137	25/137
VOC	25/137	25/137
PM_{10}	15/82	15/82
$PM_{2.5}$	12/65	15/82
SOx	25/137	25/137
CO	100/548	100/548
H_2S	10/54	10/54
Pb	0.6/3	0.6/3
TACs	Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (non-cancerous)	

Notes:

CO	carbon monoxide
lbs	pounds
NOx	oxides of nitrogen (nitric oxide and nitrogen dioxide)
$PM_{2.5}$	respirable particulate matter less than 2.5 microns in diameter
PM_{10}	respirable particulate matter less than 10 microns in diameter
SOx	oxides of sulfur
TACs	toxic air contaminants
VOC	volatile organic compounds

Construction Emissions

Construction emissions are temporary emissions, occurring only while a project is being constructed and ending when construction is complete. Construction emissions originate primarily from the combustion of fossil fuels used by mobile on-road sources (e.g., workers' vehicles, material and equipment delivery trucks, soil haul trucks) and mobile off-road sources (e.g., concrete industrial saws, excavators, off-highway trucks, dozers, backhoes, excavators, rollers, trenchers, skid steer loaders, welders, air compressors, cranes, pavers, water trucks, concrete delivery trucks, and cement and mortar mixers).

The proposed Project construction phase consists of constructing a warehouse building of up to 543,900 square feet, including Phase 2 expansion, and 82 parking spaces on a 3,378,799 square foot (72.10 acre) lot. Construction emissions of the proposed Project would result from construction off-road vehicles, material delivery vehicles, and vehicles used by construction workers to travel to and from work. Construction activities resulting from the proposed Project would occur mostly during the calendar years 2026 and 2027, with a small period of potential building expansion to take place approximately five years after initial construction begins. For the purpose of calculating air emissions, construction of the entire proposed Project is assumed to be completed between calendar years 2026 and 2027. Construction emissions resulting from the proposed Project were calculated based on a worst-case scenario where each piece of equipment in each phase runs simultaneously. This approach assumes maximum daily operating time for all off-road equipment.

Construction emissions were calculated using the California Emissions Estimator Model (CalEEMod), version CalEEMod2022.1.1.30. CalEEMod is widely accepted in California to provide a uniform platform to estimate the potential emissions resulting from construction and operation activities of land use projects in California (Tetra Tech, Inc2025b). The model uses pre-programmed algorithms to calculate emissions based on data entered. The algorithms are designed to take information such as project size, construction length, vehicle and equipment types, number of vehicle trips and lengths, and equipment operating hours to calculate emissions of criteria pollutants and greenhouse gases. The emission calculations provided in this document factor in dust control measures, such as those prescribed in MDAQMD Rule 403, and off-road construction vehicles using a fleet fitted with Tier 4 engines. CalEEMod input values and calculated air emission results for the proposed Project are provided as Appendix A and summarized in Table 2. As shown in Table 2, Project construction impacts would be less than significant.

DRAFT

Table 2. Project Construction and Operation Emissions of Criteria Pollutants

Calendar Year	VOCs	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Construction 2026 (Ton per yr)[A]/(lb/day)[B]	0.17/2.13	0.71/7.79	3.00/36.77	0.005/0.06	0.414/8.02	0.138/4.12
Construction 2027 (Ton per yr)[A]/(lb/day)[B]	1.708/74.81	0.820/7.58	2.988/32.33	0.005/0.05	0.418/4.03	0.122/1.18
Operation (Ton per yr)[A]/(lb/day)[B]	3.654/23.005	4.933/34.193	20.240/110.904	0.041/0.244	3.010/16.601	0.797/4.451
Threshold of Significance Construction (Ton per yr)/(lb/day)	25/137	25/137	100/548	25/137	15/82	12/65
Threshold of Significance Operation (Ton per yr)/(lb/day)	25/137	25/137	100/548	25/137	15/82	15/82
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: (Tons per yr)/(lb/day) Tons per year/pounds per day
CO Carbon monoxide
NOx Oxides of nitrogen (nitric oxide and nitrogen dioxide)
PM_{10} Respirable particulate matter less than 10 microns in diameter
$PM_{2.5}$ Respirable particulate matter less than 2.5 microns in diameter
SOx Oxides of sulfur (sulfur dioxide and sulfur trioxide)
VOC Volatile organic compounds

[A] - Annual construction emissions are calculated by CalEEMod for each year that construction activities are expected to occur. Section 2.1 of the Annual segment of Appendix A summarize the calculated mitigated annual construction emissions. Section 2.2 of the Annual segments of Appendix A summarizes the calculated mitigated annual operational emissions.

[B] - Daily construction and operational emissions are the maximum of Winter and Summer emissions calculated in CalEEMod for each criteria pollutant. Sections 2.1 of the Winter and Summer segments of Appendix A summarize the calculated mitigated daily construction emissions. Sections 2.2 of the Winter and Summer segments of Appendix A summarize the calculated mitigated daily operational emissions.

Operation Emissions

Operation emissions would result from material unloading, loading, sorting, storing and shipping, as well as from employee vehicle miles traveled. Emissions were calculated using CalEEMod. CalEEMod input values and calculated air emission results are provided as Appendix A and summarized in Table 2. A less than significant impact would occur.

c) *Expose sensitive receptors to substantial pollutant concentrations?*

Less Than Significant Impact. Sensitive receptors include residences, schools, daycare centers, playgrounds, and medical facilities. The proposed Project would have a significant impact if it exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.

Construction Phase

As determined in Table 2, the proposed Project emissions would be below established thresholds and have a less than significant impact. Emissions of toxic air contaminants (TACs) at the construction phase would be primarily from the combustion of diesel fuel used by off-road equipment. Emissions of TACs from mobile sources are regulated at the state level through the implementation of measures and programs such as the pursuit of low-emission vehicle programs, low carbon fuel standards, and heavy-duty vehicle emissions regulations. Applicable measures for the proposed Project are the CARB's In-Use Off-Road Diesel Fueled Fleets Regulation and the In-Use On-Road Diesel-Fueled Vehicles. Both regulations are enforced by CARB, and fleet owners are responsible for meeting compliance requirements. All off-road vehicles at the Project property would use Tier 4 engines. The MDAQMD has neither adopted nor recommended methodology for assessing health risk associated with mobile sources.

The Office of Environmental Health Hazard Assessment (OEHHA), in its Guidance Manual for Preparation of Health Risk Assessments associated with stationary sources, recommends that a 30-year exposure duration be used as the basis for estimating cancer risk of the maximum exposed individual resident in the Hot Spots Program, and the 9 and 70-year cancer risk as supplemental information (California Environmental Protection Agency 2015). Since the Hot Spot Program is aimed at stationary sources, and the construction phase of the proposed Project includes only temporary non-stationary sources, a less than significant impact would occur.

Operation Phase

Per guidance identified by the MDAQMD, CEQA, and Federal Conformity Guidelines, a proposed project with an industrial or distribution-center land use would have the potential to impact sensitive receptors if it would be within 1,000 feet of a sensitive receptor (Mohave Desert Air Quality Management District 2020), and would require evaluation against the cancer risk threshold of greater than or equal to 10 in a million and/or pose a HI (non-cancerous) greater or equal to 1. The proposed Project property is primarily surrounded by vacant land on the west, north, and east. To the south is a Union Pacific railroad switching yard. The nearest residence or sensitive receptor is approximately 1,400 feet (427 meters) to the north from the proposed Project property. The nearest business (Union Pacific's rail switching yard) is approximately 1,000 feet (305 meters) to the south from the proposed Project property. As the nearest sensitive receptor (residence) is at a distance greater than 1,000 feet from the proposed Project property, sensitive receptors are not anticipated to be exposed to substantial pollutant concentrations. A less than significant impact would occur.

d) *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Less Than Significant Impact. The proposed Project would generate emissions during its construction and operation phases, mostly from off-road mobile sources in the form of construction vehicles used for site grading, preparation and facility construction. Operation emissions would result from off-road equipment used for material loading, sorting, unloading, and storing. Operation emissions would also result from employee vehicle miles traveled. The off-road equipment that would be used for both construction and operation would be fitted with Tier 4 Final engines. Tier 4 engines are the cleanest engines for the off-road sector and would generate the lowest emission rates. The proposed Project's odors, associated with diesel emissions from construction and operation of the off-road equipment, would be significant if they were to become a nuisance. However, since the proposed Project is surrounded mostly by vacant land, no adverse impact is anticipated from odors associated with the Project. Employees driving to and from the facility are not likely to generate emissions that would cause an odor. A less than significant impact would occur.

Mitigation Measures

None required.

Air Quality Impact Conclusions

No significant impacts to air quality resources have been identified or anticipated, and no mitigation measures are required.

DRAFT

4. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

(Check ☐ if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database.)

Environmental Setting

The Project property is located in the western Mojave Desert at Yermo, an unincorporated community east of Barstow. Interstate 15 (I-15) is located less than 0.5 miles to the north of the Project property. Areas surrounding the Project property to the north, east and west are mostly undeveloped land consisting of creosote bush scrub vegetation communities with rural residential dwellings. A Union Pacific rail switching yard and rails are located to the south of the Project property. The climate within the region of the Project site is arid, consisting of hot, dry summers and mild winters. The rainy season typically lasts from November to April, although intermittent thunderstorms during August and September provide substantial amounts of rainfall in

localized areas. Elevation within the Project property area ranges from approximately 1,949 to 1,940 feet above mean sea level (msl). The Project property lies entirely within the Mojave Desert of California with vegetation that can be classified generally as Mojave creosote bush scrub (Holland 1986). Mojave creosote bush scrub community is characterized by the dominance of creosote bush that forms an open shrub community with substantial bare ground between shrubs (Holland 1986). More specifically, the plant community within the Project area is dominated by creosote bush (*Larrea tridentata*)-white bursage (*Ambrosia dumosa*)/four-wing salt bush (*Atriplex canescens*) shrub alliance (Sawyer and Keeler-Wolf 2009). This community is usually found below 4,000 feet msl on well-drained soils, often on bajadas and low hills, and is not found in highly saline or alkaline soils.

Impact Analysis

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less than Significant Impact with Mitigation Incorporated. As described in the Biological Reconnaissance and Habitat Assessment Report completed for the Project property and found as Appendix B, there are a small number of special-status species that were determined to be absent or not likely to be present due to the lack of suitable habitat within the Project property (Tetra Tech, Inc. 2025a). During the reconnaissance survey, no Joshua trees (*Yucca brevifolia*), a Candidate species for listing under the California Endangered Species Act (CESA), are present on or immediately adjacent to the Project property. The Project area is developed on all sides including a rail switching yard and active rail line, Marine Corps Logistic Base Barstow – Yermo Annex, and nearby Yermo Road and rural residential developments. Lands to the north and east of the study area have been developed in the past and are now vacant. In conjunction with development on all sides, the presence of domestic dogs on the site from adjacent residences likely precludes any presence of burrowing owl (*Athene cunicularia*), a Candidate species for listing under the CESA, or desert tortoise (*Gopherus agassizii*), a species listed as Threatened under the CESA and the Federal Endangered Species Act. To ensure avoidance of adverse effect on biological resources, the potential for construction-related ground disturbance to impact nesting birds, burrowing owl and desert tortoise can be reduced to a less than significant level with implementation of **Mitigation Measures BIO-1, BIO-2 and BIO-3** .

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

No Impact. No riparian habitat or other sensitive natural community is found on or adjacent to the Project property. No impact would occur.

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. No wetlands are found on or immediately adjacent to the Project property. No impact would occur.

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. Because the Project property is isolated from adjacent habitats by paved roads, military and railroad facilities, and residences with unrestrained domestic dogs, there is no potential for the Project property to be part of a movement corridor, nor are there likely to be native wildlife nursery sites established on the Project property. No impact would occur.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

No Impact. The Biological Reconnaissance and Habitat Assessment Report completed for this Project describes the federal, state and local policies and ordinances related to biological resources for the Project property. No conflicts with these policies exist with the proposed Project, and as a result, no impact would occur.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The proposed Project property and adjacent areas are not part of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As a result, there are no conflicts with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and no impact would occur.

Mitigation Measures

Mitigation Measure BIO-1. Vegetation removal activities are to be conducted outside of the nesting bird season (typically February 15th to August 31st). If grading and clearing activities must occur during the nesting season, a nesting bird survey shall be conducted by a qualified biologist at two intervals, one within 30 days and one within three days of initial ground disturbance for the Project. If nesting birds are not found within the Project property, no further action will be required. If nesting birds are observed, a buffer zone between construction activities and the nesting bird shall be established by a qualified biologist. The buffer zone shall be determined by the type of nesting bird. A typical buffer zone would be 250 feet for nesting passerine birds (songbirds) and 500 feet for nesting raptors.

Mitigation Measure BIO-2 Prior to ground disturbance, a focused survey for desert tortoise at the study area will be conducted. The focused survey for desert tortoise will be conducted during active tortoise periods (April through May, September through October) using protocols specified by the United States Fish and Wildlife Service (2019). The focused survey for desert tortoise will be timed to coincide with the nesting bird survey. Both surveys will happen concurrently, depending on the project schedule.

Mitigation Measure BIO-3 A preconstruction survey of the study area for burrowing owls will be completed within 30 days before ground-disturbing activities to prevent direct harm to the owls. This survey will coincide with the **Mitigation Measure BIO-1** for nesting bird survey. If burrowing owls are observed within the study area, no work can occur within buffer areas detailed in the 2012 guidelines (California Department of Fish Game 2012) and CDFW must be contacted to develop a mitigation plan.

Biological Resources Impact Conclusions

A significant impact to biological resources has been identified or anticipated. With incorporation of **Mitigation Measures BIO-1** through **BIO-3**, impacts to this resource would be reduced to a less than significant level.

DRAFT

5. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

(Check if project is located in the Cultural ☐ overlays or cite results of cultural resource review.)

Environmental Setting

A comprehensive cultural setting for the proposed Project property was prepared as part of a cultural resources assessment completed for the Project property and is found as Appendix C (Bargas Consulting, Inc. 2025), summarized as follows. It is generally believed that human occupation of California dates to at least 10,000 years before present (BP). During the Late Horizon Period (2,000 years BP to the time of European Contact [i.e., AD 1769]), the population of the region increased, as did the number and size of permanent villages. The hunting of faunal resources was the primary subsistence strategy, supplemented by the gathering of plant foods, particularly acorns. Large villages served as trade centers and shell beads were introduced as trade items in exchange for goods. A strong artistic tradition developed using bone, shell, stone, and basketry. Regional subcultures developed during this period, each with their own geographical territory and language or dialect. These groups were often bound by shared cultural traits and maintained a high degree of interaction and trade. The Project property is located in territory known ethnographically to have been occupied by the Serrano and the Kawaiisu people.

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. The colonization of California began shortly after the first Spanish land expedition to the territory they called Alta (Upper) California, the region directly north of Baja (Lower) California. After 1821, what is now California actively came under Mexican governance. In 1848, following two years of war with the United States (U.S.), the Mexican period ended with both nations signing the Treaty of Guadalupe Hidalgo. The massive Alta California region that Mexico surrendered under the Treaty eventually became the states of California, Nevada, Utah, and parts of Arizona, Wyoming, and Colorado.

The city of Barstow located to the southwest of the Project location is situated at the junction of three historic trails: the Old Mohave Trail, the Old Spanish Trail/Mormon Road, and U.S. Route 66. The Project property is within the unincorporated community of Yermo, approximately 7.0 miles northeast of Barstow. In the late 1800s (1880s to 1890s), prior to the establishment of Yermo, the nearby mining settlement of Calico, approximately 2.5 miles to the northwest, brought fortune seekers into the area. Yermo was established as a rail stop along the Union Pacific Railroad line in 1903, originally known as Otis. In 1907, the postmaster changed the town's name to Yermo (meaning "Wilderness" in Spanish) to avoid confusion with Otis, Colorado. Yermo continued to grow, with the majority of its populace being railroad employees, and the town became a company town. Today, Yermo remains a small community with a somewhat transient population, primarily serving railway

employees and their families, and the military personnel of the nearby Marine Corps Logistics Base-Barstow to the west and Fort Irwin National Training Center to the north.

Impact Analysis

a) *Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

Less than Significant Impact with Mitigation Incorporated. A records search of the Project property and surrounding lands in a 0.5-mile radius was requested from the California Historical Resources Information Center (CHRIS), through the South Central Coastal Information Center (SCCIC) at California State University Fullerton, Fullerton, California, to identify any known cultural resources and previous investigations recorded within, and in the vicinity of, the Project property. The Built Environment Resources Directory (BERD) for the Project property was also reviewed. The records search identified 19 previously conducted studies within the 0.5-mile search radius, two of which overlap the current Project property. A total of 63 previously recorded resources were identified within the 0.5-mile search radius, none of which are within the Project property. The BERD search was negative for historic-era built-environment resources (i.e., 50 years old or older) within the Project property. During the pedestrian survey of the Project property, no previously recorded or newly recorded cultural resources were observed. Additionally, the results of the desktop review and buried site sensitivity analysis indicate that the Project property has a low to moderate potential for the presence of as-yet undocumented buried cultural resources deposits. The potential remains, however, for Project activities to encounter unanticipated discoveries and cause a significant impact to historic resources. In the event that subsurface historic archeological materials are inadvertently encountered, incorporation of **Mitigation Measures CUL-1, CUL-2** and **CUL-3** would reduce impacts to a less than significant level.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less than Significant Impact with Mitigation Incorporated. As indicated in Section 4.5, Item a), no historic archaeological resources were encountered. In the unlikely event that archeological resources are discovered during construction, incorporation of **Mitigation Measures CUL-1, CUL-2** and **CUL-3** would reduce impacts to a less than significant level.

c) *Disturb any human remains, including those interred outside of formal cemeteries?*

Less than Significant Impact with Mitigation Incorporated. During ground disturbance, the discovery of human remains is always a possibility. California state law (California Health & Safety Code 7050.5 and PRC 5097.98) regulates specific procedures to be followed in the event that human remains, modern or archaeological, are discovered in the state of California. In the unlikely event that human remains are discovered during construction, incorporation of **Mitigation Measure CUL-4** would reduce impacts to a less than significant level.

Mitigation Measures

Mitigation Measure CUL-1. In the event that cultural resources are discovered during project activities, work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a County-qualified archaeologist, meeting Secretary of Interior standards, shall be hired to assess the find. Work on the other portions of the Project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within **Mitigation Measure TCR-1**, regarding any pre-contact finds, and shall be provided further information

once the archaeologist makes his/her initial assessment of the nature of the find so as to provide Tribal input regarding significance and treatment of the find.

Mitigation Measure CUL-2. If significant precontact cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within **Mitigation Measure TCR-1**. The archaeologist shall monitor the remainder of the Project and implement the Plan accordingly.

Mitigation Measure CUL-3. Prior to ground disturbance, a qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training will be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Tribal representatives from the Consulting Tribes, such as Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) will be allowed to attend and/or participate in the WEAP training, should they elect to, and will be given ten days' notice prior to the training. Archaeological sensitivity training will include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.

Mitigation Measure CUL-4. If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease, and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.

Cultural Resources Impact Conclusions

Significant impacts to cultural resources have been identified or anticipated. With the incorporation of **Mitigation Measures CUL-1, CUL-2, CUL-3** and **CUL-4**, impacts to this resource would be reduced to a less than significant level.

DRAFT

6. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Environmental Setting

State CEQA Guidelines, Appendix F, Energy Conservation, describe the framework within which energy conservation should be analyzed. Conserving energy implies the wise and efficient use of energy through decreasing overall per capita energy consumption, decreasing reliance on fossil fuels (such as coal, natural gas, and oil), and increasing reliance on renewable energy sources. Two main types of energy are expected to be consumed during construction and operation of the proposed Project; electricity supplied by Southern California Edison, and hydrocarbons such as diesel fuel or propane. Propane gas-powered forklifts may also be used. Propane gas is a more energy-efficient fuel compared to natural gas/methane, resulting in lower greenhouse gas emissions when combusted (United States Department of Energy 2025). During Project operation, processing of received plastics may include use of the following equipment:

- Shredders, ellipticals, and optical separators for size reduction and separation,
- Eddy current and magnets to separate ferrous and non-ferrous materials,
- Balers and pelletizers to compress materials into compact forms for easier handling, transportation, and storage,
- A cyclone and a wind sifter to separate materials by relative density,
- A fine shredder and a granulator to shred materials into smaller fractions, and
- Metering bunkers to control the flow of material and store product

Construction equipment would utilize diesel fuel supplied by petroleum fuel distributors as arranged by the general construction contractor.

Impact Analysis

a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?*

Less than Significant Impact. The Project's energy consumption would not cause a substantial or potentially substantial adverse effect on the environment. Energy-efficient equipment and tools would be used during construction and operation of the Project. The Project would adhere to relevant energy standards and building codes that specify energy efficiency standards as required by the County. EMFAC2021 (EMisson FACtor 2021) is the latest emission inventory model used by California and local governments to meet the Clean Air Act requirement. EMFAC2021 fuel consumption data and

CalEEMod (CalEEMod v. 2022.1.1.30) were used to calculate energy usage associated with the construction and operation of the Project and are summarized as follows.

Construction. Temporary electricity usage for construction activities may include lighting, electric equipment, and mobile office uses. Electricity usage during construction is expected to be short-term and relatively minor compared to the operational demand. Construction of the Project is expected to consist of site preparation, grading, building construction, paving, and architectural coating phases. Construction activities are estimated to consume energy in the form of motor vehicle fuel (diesel fuel) for off-road construction equipment. Vehicle trips include workers and vendors traveling to and from the Project property. Table 3 below summarizes energy usage during construction for off-road activities.

DRAFT

Table 3. Construction Off-Road Equipment Energy Consumption Summary

Phase	Equipment	Fuel Rate (Gallons Diesel/Year)	Energy Use (KBTU/Year)
Site Preparation			
	Rubber Tired Loader	1,390	192
	Tractor/Loader/Backhoe	673	93
Grading			
	Excavator	1,971	272
	Graders	1,258	174
	Rubber Tired Dozer	1,622	224
	Scrapers	5,782	798
	Tractors/Loader/Backhoe	1,178	163
Building Construction			
	Crane	10,033	1,385
	Forklift	9,140	1,261
	Tractor/Loader/Backhoe	16,125	2,225
	Generator Sets	10,639	1,468
	Welders	3,543	489
Paving			
	Pavers	1,024	141
	Paving Equipment	891	123
	Rollers	570	79
	Air Compressor	263	36
Total Energy Used for Construction		**66,103**	**9,122**

Notes: Source: CalEEMod Defaults (CalEEMod v.2022.1.1.30), Appendix A
KBTU: Kilo (thousand) British thermal units
MMBTU: One million British thermal units

Operation. The Project would use electricity for operational activities including, but not limited to, building heating and cooling, lighting, appliances, electronics, mechanical equipment, and parking lot lighting. Freepoint is designing the Facility to maximize energy efficiency and minimize unnecessary load fluctuations. Operations will run at a steady rate to avoid the inefficiencies of frequent start-ups and shutdowns, with downtime isolated to scheduled maintenance periods. Indirect electricity usage would also be required to supply and distribute water and wastewater. The Project is expected to consume energy during transportation to and from the warehouse, as well as during operational handling and processing of plastic feedstock. The estimated annual Project energy consumption is summarized in Table 4 as follows. The proposed project is designed to include energy saving features. The site parking lot will have energy-efficient LED lamps, with photoelectric controls. The warehouse will be equipped with passive heating and cooling design features for temperature regulation. The electrical power transformer specified for the Project will be an energy-efficient type complying with the most recent energy code. A less than significant impact would occur.

Table 4. Annual Project Energy Consumption

Equipment	Fuel Rate	Units of Measure	Energy Use (KWh/Year)
Electricity	Not Applicable	NA	5,312,602
Equipment Type/ Numbers	**Fuel Rate**	**Units of Measure**	**Energy Use (MMBTU/Year)**
Forklifts (53 hp)/16	81,519	Gallons of LPG/Year	7,500
Forklifts (87 hp)/8	66,907	Gallons of LPG/Year	6,155
Emergency Generator/1	143	Gallons of Diesel/Year	20
Material Handling Equipment/1	8,193	Gallons of Diesel/Year	1,131
Skid Steer Loader (66 hp)/3	17,791	Gallons of Diesel/Year	2,455
Skid-Steer Loader (50 hp)/1	4,493	Gallons of Diesel/Year	620

Notes: Source: CalEEMod Defaults (CalEEMod v.2022.1.1.30), Appendix A
KWh: Kilo (thousand) Watts-Hour
Hp: Horsepower
NA: Not Applicable
MMBTU: One million British thermal units
LPG: Liquid Propane Gas

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The Project would be required by San Bernardino County to comply with all applicable CALGreen Code energy conservation measures, including California Code of Regulations Title 24, part 6, California Energy Code. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Project would purchase electricity through Southern California Edison, which is subject to the requirements of California Senate Bill (SB) 100. SB 100 requires that renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. The Project would also comply with the mandatory requirements of California's Green Building (CALGreen) and Building Energy Efficiency standards that promote renewable energy and energy efficiency. A less than significant impact would occur.

Mitigation Measures

None required.

Energy Impact Conclusions

No significant impacts to energy resources have been identified or anticipated, and no mitigations are required.

DRAFT

7. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury death involving?				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?		X		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?		X		
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

(Check if project is located in the Geologic Hazards ☐ or Paleontologic Resources ☐ Overlay District.)

Environmental Setting

The Project property is within the Mojave Desert region of unincorporated San Bernardino County in southeastern California. The Mojave Desert lies within the Great Basin, extending from the mountains of the Sierra Nevada in the north and transitioning into the Sonoran Desert to the southeast and south. The San Gabriel and San Bernardino Mountains border the Mojave Desert on the southwest. The Mojave River is south of the Project property, and the Calico Mountains lie to the north. Elevations within the Project property range from approximately 1,946 to 1,948 feet above mean sea level (AMSL). The Project property is mapped as Quaternary (Q) Pleistocene- to Holocene-age alluvial, lake, playa, and terrace deposits (United States Geological Service 2024) (Bargas Consulting, Inc. 2024).

Soils within the Project property consist predominantly of Cajon series soils, which are very deep, somewhat excessively drained soils that are formed in alluvium from granitic rocks and are typically found on alluvial fans, fan aprons, fan skirts, inset fans, and river terraces. Soils in the Helendale and Kimberlina series are also found within the Project property. Helendale series soils consist of very deep, well-drained soils that are formed

in alluvium from granitoid rocks. Kimberlina series soils consist of very deep, well-drained soils typically formed in mixed alluvium derived from igneous and sedimentary rocks. Both Helendale and Kimberlina series soils are typically located on flood plains and recent alluvial fans (United States Department of Agriculture 2024).

Impact Analysis

a) *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury death involving?*

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

No Impact. There are no mapped Alquist-Priolo Zones within the Project property (California Department of Conservation 2015). The closest active fault zones to the Project property are the Calico-Hidalgo fault zone, located approximately 5 miles to the northeast, and the Harper Lake fault zone, located approximately 4.5 miles to the southwest (California Department of Conservation 2015). Although seismic activity is known to exist throughout Southern California, there are no known faults through or near the site. No impact from rupture of an unknown fault would occur.

ii) *Strong seismic ground shaking?*

Less than Significant Impact. While there are no known faults directly within the Project property, there are known active faults in the region that may contribute to ground shaking if a seismic event were to occur. Strong ground shaking can be expected in the event of a moderate or severe seismic event in the region. The Project would be constructed to current California Building Codes, which require structures to be designed to meet or exceed the seismic safety standards identified in the California Building Code. A less than significant impact would occur.

iii) *Seismic related ground failure, including liquefaction?*

No Impact. Liquefaction occurs when shallow, fine to medium-grained sediments saturated with water are subject to strong seismic ground shaking. The Project property is located within a portion of the county determined not to be susceptible to liquefaction (San Bernardino County 2007). No impact would occur.

iv) *Landslides?*

No Impact. Slope instability, due to slope height and steepness, shear strength and orientation of weak layers in the underlying geological units, and pore water pressure, can contribute to slope failure or landslide. The Project property and surrounding areas are relatively flat and are not located in an area generally identified as susceptible to seismically induced landslides and rock fall (San Bernardino County 2007). No impact would occur.

b) *Result in substantial soil erosion or the loss of topsoil?*

Less than Significant Impact. There would be no significant soil erosion impacts once construction has been completed. During construction of the Project, potential short term erosional impacts to soils within the site would be minimized through compliance with standard Best Management Practices identified in the required National Pollutant Discharge Elimination System (NPDES) permit, as well as through a Stormwater Pollution Prevention Plan (SWPPP). A less than significant impact would occur.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?*

No Impact. As discussed in Section 4.7, Items a.iii) and a.iv), liquefaction and landslides would not impact the Project.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Less than Significant Impact with Mitigation Incorporated. The textures of the soils located beneath the surface of the Project property are unknown, and have the potential to be expansive as defined in Table 18-1-B of the Uniform Building Code. With implementation of **Mitigation Measure GEO-1**, impacts from potentially expansive soils would be reduced to less than significant.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

Less than Significant Impact with Mitigation Incorporated. A septic sanitation system is proposed to be constructed at the warehouse. It is unknown if the soils beneath the surface of the Project property are capable of adequately supporting the use of a septic tank. With implementation of **Mitigation Measure GEO-2**, potential impacts from soils incapable of adequately supporting the use of septic tanks would be reduced to less than significant.

f) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less than Significant Impact with Mitigation Incorporated. A paleontological resources review was conducted in 2023 for a proposed project less than one mile to the northeast of the Project property (Dudek 2023). This review concluded that Pleistocene alluvial deposits were likely present under mapped Holocene alluvial sand deposits, and that paleontological resources may be encountered during Project excavations. With implementation of **Mitigation Measure GEO-3**, impacts to paleontological resources would be reduced to less than significant.

Mitigation Measures

Mitigation Measure GEO-1. Prior to issuance of the grading permit, the Applicant shall conduct a geotechnical investigation to determine that soils beneath the Project property are not expansive as defined in Table 18-1-B of the Uniform Building Code. If the geotechnical investigation determines that soils are expansive as defined in Table 18-1-B, then the geotechnical recommendations shall include the design of facilities and construction specifications to address adverse conditions from expansive soils and shall conform to applicable design codes, guidelines, and standards.

Mitigation Measure GEO-2. Prior to the issuance of the grading permit, the Applicant shall conduct a percolation testing of subsurface soils to determine if soils are capable of adequately supporting use of a septic system at the warehouse. The leach field will be sized appropriately based on test results. If subsurface soils are incapable of supporting a standard septic system, a qualified civil engineer or geologist shall design an alternative onsite wastewater treatment system consistent with the State Water Resources Control Board's OWTS Policy (Tier 1 or, if applicable, Tier 2 Local Agency Management Program) and San Bernardino County requirements for construction in unsuitable soils.

Mitigation Measure GEO-3. Prior to the issuance of the grading permit, the Applicant shall prepare for approval from San Bernardino County a Paleontological Resource Impact Mitigation Monitoring Program. The approved paleontologist shall be prepared to quickly salvage fossils as they are unearthed to avoid

construction delays. The paleontologist shall also remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The paleontologist shall have the power to temporarily halt or divert grading equipment to allow for removal of abundant or large specimens. Collected samples of sediments shall be washed to recover small invertebrate and vertebrate fossils. Recovered specimens shall be prepared so that they can be identified and permanently preserved. Specimens shall be identified and curated and placed into an accredited repository (such as the Western Science Center or the Riverside Metropolitan Museum) with permanent curation and retrievable storage. A report of findings, including an itemized inventory of recovered specimens, shall be prepared upon completion of the steps outlined above. The report shall include a discussion of the significance of all recovered specimens. The report and inventory, when submitted to San Bernardino County, will signify completion of the program to mitigate impacts to paleontological resources.

Geology and Soils Impact Conclusions

A significant impacts from Geologic resources has been identified or anticipated. With incorporation of **Mitigation Measure GEO-1, GEO-2 and GEO-3**, impacts to this resource would be reduced to a less than significant level.

DRAFT

8. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

Background

Significant changes in global climate patterns have been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface attributed to the accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the earth. Some GHGs occur naturally and are emitted into the atmosphere through natural processes while others are anthropogenic (i.e., created and emitted solely through human activities).

Regulated GHGs consist of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (California Health and Safety Code 38505). GHGs are commonly quantified in the equivalent mass of CO_2, denoted CO_2e, which takes into account the global warming potential of each individual GHG compound.

Carbon dioxide (CO_2) enters the atmosphere through combustion of fossil fuels (coal, natural gas, and oil), solid waste, trees, and wood products, and as a result of certain chemical reactions (e.g., manufacture of cement). CO_2 is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Methane (CH_4) is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. Nitrous oxide (N_2O) is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. HFCs, PFCs, SF_6, and NF_3 are synthetic, powerful GHGs that are emitted from a variety of industrial processes. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases"). HFCs and PFCs are sometimes used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). SF_6 is employed in electricity transmission and distribution and semiconductor manufacturing, and NF_3 results from semiconductor manufacturing processes (California Air Resources Board 2024). The most common GHG that results from human activity is CO_2, followed by CH_4 and N_2O.

San Bernardino County has set goals for establishing renewable energy projects that reduce GHG emissions and dependency on fossil fuels (San Bernardino County 2019a). The San Bernardino County Regional Greenhouse Gas Reduction Plan (2017) identifies goals for reducing GHG emissions. The San Bernardino County Regional Greenhouse Gas Reduction Plan also identifies the Mojave Air Districts that include the MDAQMD as the local agency responsible for developing and implementing an air quality plan that would include a threshold of significance for GHG emissions.

Impact Analysis

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less than Significant Impact. The proposed Project would generate GHG emissions during the construction and operation stages. GHG emissions at the construction stage would be generated mostly from off-road construction vehicles used to grub and grade the Project property, delivery vehicles, and vehicles used by workers to travel to and from work. GHG emissions at the operation stage would be generated mostly from off-road vehicles used for transferring and loading recyclable materials, vehicles delivering and hauling recyclable materials, and vehicles used by workers to travel to and from the Project property.

The MDAQMD has established GHG significant thresholds to determine the significance of a project (Mohave Air Quality Management District 2020). A project that exceeds the GHG significant thresholds would have a significant impact. GHG emission thresholds for construction and operation emissions are summarized in Table 5.

Table 5. Project Greenhouse Gas Construction and Operation Emissions

Calendar Year	GHG (Tons per Year[1]/ Pounds per Day[2])
Construction 2026	706/8,624
Construction 2027	785/8,495
Operation	6,243/37,873
Significance Threshold	100,000/548,000
Significant?	No

Notes:
[1] - Annual construction emissions of greenhouse gases are calculated by CalEEMod for each year that construction activities are expected to occur. Section 2.1 of the Annual segment of Appendix A summarize the calculated mitigated annual construction emissions. Since CalEEMod calculates annual emissions in metric tons per year, the values listed in Table 5 have been converted to short tons per year for ease of comparison with the MDAQMD thresholds which are in short tons per year. Section 2.2 of the Annual segments of Appendix A summarizes the calculated mitigated annual operational emissions.
[2] - Daily construction and operational emissions are the maximum of Winter or Summer emissions calculated in CalEEMod for greenhouse gases. Sections 2.1 of the Winter and Summer segments of Appendix A summarize the calculated mitigated daily construction emissions. Sections 2.2 of the Winter and Summer segments of Appendix A summarize the calculated mitigated daily operational emissions.

Construction and operation emissions of the proposed Project were calculated using CalEEmod version 2022.1.1.30. CalEEMod settings and output results are included as Appendix A and summarized in Table 5. Construction and operation emissions are estimated to be below the MDAQMD-established GHG emission thresholds. A less than significant impact would occur.

b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Less Than Significant Impact. GHG emissions would conflict with applicable plans, policy, or regulations if the proposed Project were to conflict with any of the plans, policies or regulations adopted for the purpose of reducing GHG emissions in San Bernardino County.

The land use designation of the proposed Project would not change with the implementation of the proposed Project. The proposed Project would not result in an increase of either population or emissions sources beyond what has been planned for in the San Bernardino's General Plan. The proposed Project would be consistent with the San Bernardino County Regional Greenhouse Gas Reduction Plan (2017) and would not impact the implementation of the State's Climate Change Scoping Plan, which lays out California's strategy for meeting the GHG emission reduction goals of Assembly Bill (AB) 32. AB 32 was signed into law on September 27, 2006, and it requires the California Air Resources Board to develop and implement regulations and initiatives to reduce GHG emissions to 1990 levels, or lower, by 2020. The Scoping Plan requires California to reduce GHG emissions to 40 percent below 1990 levels by 2030, to 85 percent below 1990 levels by 2045, and to achieve carbon neutrality by 2045 or earlier.

The proposed Project would contribute to meeting goals under AB 341 Commercial Recycling, which requires cities to develop source reduction and recycling elements as part of their waste management plans, which are required to contain specified components, including source reduction, recycling, and composting. AB 341 stipulates that reducing the disposal of recyclable materials in landfills conserves landfill capacity and contributes to a reduction in greenhouse gas emissions and climate change. A less than significant impact would occur.

Mitigation Measures

None required.

Greenhouse Gas Emissions Impact Conclusions

No significant impacts from Project-related greenhouse gas emissions have been identified or anticipated and no mitigation measures are required.

9. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project property?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk loss, injury or death involving wildland fires?			X	

Environmental Setting

Hazardous Materials. Hazardous materials, as defined by California Health and Safety Code Section 25501(n) and (o), are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into four categories, based on their properties, which are summarized as follows.

- Toxic – causes adverse human health effects
- Ignitable – has the ability to burn
- Corrosive – causes severe burns or damage to materials
- Reactive – causes explosions or generates toxic gases

A hazardous waste is any hazardous material that is discarded, abandoned, or, as a secondary material, is slated to be recycled (Environmental Protection Agency 2024). When improperly handled, hazardous materials and hazardous waste can result in public health hazards if discharged into the environment through releases into soil or groundwater, or via airborne releases in the form of vapors, fumes, or dust.

Schools. The nearest schools within five miles of the Project vicinity include the following:

- Yermo School (grades Toddler/Kindergarten–8), 38280 Gleason Street, Yermo, located 1.3 miles to the northeast,
- Alternative Education (grades K–12), 33525 Ponnay, Daggett, located 3.7 miles to the southwest, and
- Silver Valley High School (grades 9–12), 35484 Daggett-Yermo Road, Yermo, located 2.4 miles to the west.

Airports. Barstow-Daggett Airport, a County-owned, public-use, general aviation airport located at 39500 National Trails Highway, is approximately 4.2 miles to the southeast of the Project property.

Impact Analysis

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less than Significant Impact with Mitigation Incorporated. During construction, hazardous materials such as fuels and oils would be used at the Project property. These materials would be transported to the site in Department of Transportation-approved conveyances. Hazardous materials may be transported within the site during construction. As would be specified in the SWPPP, spill kits would be present to manage any accidental hazardous material spills. Other Best Management Practices would be installed as part of construction to contain accidental hazardous material releases. Once the Project is constructed, potentially hazardous materials may be present at designated and properly designed storage areas at the Facility.

If an inbound delivery of feedstock were to erroneously contain hazardous materials, it would be rejected. A standard Health and Safety Plan for workplace safety, which would include Safety Data Sheets for hazardous materials present, would be created, and routine training for workers to ensure worker safety would be conducted. Worker training would include recognition of hazardous materials that could inadvertently be delivered to the Facility and knowledge of where those materials would be temporarily stockpiled prior to removal and disposal at an appropriate facility. Two 2,000-gallon propane storage tanks would be installed and would require a permit issued by the County Fire Department. Storage tank racks to hold smaller propane containers may also be incorporated as needed in a location adjacent to the warehouse. A 20,000-gallon diesel fuel AST would also be installed as part of the Project and would require preparation of a SPCC detailing how spills of diesel fuel would be prevented or controlled. The AST would require registration with the Hazardous Materials Section of San Bernardino County Fire Protection District, which is the CUPA with oversight for tank installation and closure.

There is a possibility that more than 10,000 pounds of propane may be stored at the warehouse. If this occurs, implementation of **Mitigation Measure HAZ-1** would reduce the impact to less than significant.

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less than Significant Impact. As detailed in Section 4.9, Item a), potential hazardous materials would be contained within designated storage areas, and are not likely to create a significant hazard to the public or the environment through accidental conditions. A less than significant impact would occur.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact. The proposed Project would process plastic feedstock, and no hazardous emissions or acutely hazardous materials, substances, or waste would be generated. The closest school to the Project property is more than one mile to the northeast. No impact would occur.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Less than Significant Impact. A Phase I Environmental Site Assessment (ESA) that identified, to the extent feasible, "recognizable environmental conditions" (RECs) at the Project property was conducted and is found as Appendix D (Geosyntec Consultants 2024). No RECs were identified during the Phase I ESA. The Barstow Marine Corps Logistic Base (Yermo Annex) was identified as a Controlled REC due to past spills and known contamination of groundwater from past activities. Due to ongoing cleanup, regulatory activities, and the characterized and delineated groundwater plume, the Yermo Annex was considered to be a Controlled REC (Geosyntec Consultants 2024). The Phase I ESA also identified four illegal dump sites on the Project property. Debris and imported soils were removed from the site. No evidence of the illegal dump was observed during the reconnaissance survey conducted as part of the Phase I ESA (Geosyntec Consultants 2024). A less than significant impact would occur.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project area?*

No Impact. The Project property is located more than two miles from Barstow-Daggett Airport, located at 39500 National Trails Highway. Once constructed, plastic feedstock processing at the warehouse would not result in a safety hazard for the airport or for people residing and working in the Project area. No impact would occur.

f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. The Project would be required to provide suitable site access for emergency vehicles, including fire, police, and paramedics, in compliance with San Bernardino County requirements. A less than significant impact would occur.

g) *Expose people or structure, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less than Significant Impact. The Project property is in an area of the County determined to be Non-Wildland/Non-Urban for risk for impacts from wildfire (San Bernardino County 2022, Policy Map HZ-5 Fire Hazard Severity Zones). In addition, the Project property has not been mapped within a Fire Safety Overlay District (San Bernardino County 2010). As a result, construction and operation of the Project

would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. A less than significant impact would occur.

Mitigation Measures

Mitigation Measure HAZ-1. In the event that more than 10,000 pounds of propane are stored on-site, a Risk Management Plan shall be developed by the Applicant, and registration completed with the U.S. EPA within six months of Facility commissioning.

Hazards and Hazardous Materials Impact Conclusions

A significant impact from hazards and hazardous resources has been identified or anticipated. With incorporation of **Mitigation Measure HAZ-1**, impacts to this resource would be reduced to a less than significant level.

DRAFT

10. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?			X	
i) Result in substantial erosion or siltation on – or off-site;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on – or off-site;			X	
iii) Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or			X	
iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X

Environmental Setting

A Preliminary Drainage Study has been completed for the Project and is found as Appendix E. The Project property is located within the Lahontan water region, which covers over 33,000 acres of eastern California from the Oregon border to the Mojave Desert, San Bernardino Mountains, and eastern Los Angeles County. Precipitation occurs mostly as rainfall, with some snowfall in the San Bernardino Mountains (United States Geologic Survey 2023). Rainfall is sporadic and amounts vary widely with location. Mean annual precipitation ranges from 16 inches in the San Bernardino Mountains to less than three inches in the Bristol Lake (dry) area. The Project is located within the Mojave Watershed which drains into the Mojave River. The Mojave River is an intermittent river, with its main channel approximately one mile south of the Project property (Tetra Tech

2025c). Only a small portion of the Mojave Watershed drains from the west along the western side of the project property (Tetra Tech 2025c).

Groundwater. Groundwater is recharged into the basin predominantly through the infiltration of water from the Mojave River, which accounts for approximately 80 percent of the total basin natural recharge. Other sources of recharge include infiltration of storm runoff from the mountains, desert washes, and recharge from human activities such as irrigation return flows, wastewater discharge, and enhanced recharge with imported water. Over 90 percent of the basin groundwater recharge originates in the San Gabriel and San Bernardino mountains. Groundwater is discharged from the basin primarily by well pumping, evaporation through soil, transpiration by plants, seepage into dry lakes where accumulated water evaporates, and seepage into the Mojave River.

The Project property lies within the boundaries of the Mojave Water Agency (MWA). Numerous groundwater quality issues affect the MWA service area. Key groundwater constituents of concern include arsenic, nitrates, iron, manganese, hexavalent chromium, fluoride, and total dissolved solids. Some of these constituents are naturally occurring in desert environments, while others are associated with human activities. Measurements exceeding drinking water standards have been found for some of these constituents within the Mojave River Groundwater Basin. Groundwater in these areas may have to be treated prior to consumption.

Surface Water. No surface water sources are present at the Project property. The portion of the Mojave River located to the south of the Project property has intermittent ephemeral surface water flow in response to stormwater flows that originate upstream. On-site drainage on the Project property is conveyed as natural overland flow along very gradual slopes from the west to the east and relatively unconcentrated, natural shallow channelization.

Impact Analysis

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Less than Significant Impact. The BMPs for erosion and sediment control, as listed in a SWPPP that would be developed for the Project, would be implemented during construction. These BMPs would ensure no sediment would be discharged from the Project property during construction. Once constructed, stormwater runoff generated by the Project property would be directed into a retention/infiltration facility located on the northern side of the warehouse. A less than significant impact would occur.

b) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less than Significant Impact. The proposed Project is a Plastics Sorting and Processing Facility that would have sanitary facilities for workers requiring a water source. As detailed in Section 4.18, Liberty Utilities that provides water service to the Yermo community has provided the Project applicant with a Will-Serve letter indicating that they would render service to the Project upon submittal and approval by the California Public Utilities Commission (CPUC). As a result, the proposed Project would not rely on groundwater at the Project property and would not substantially deplete groundwater supplies or impede sustainable groundwater management of the local aquifer. During construction, water would be used for dust suppression during site preparation. The earthwork portion of the construction effort would occur over a limited number of days and would not substantially deplete groundwater supplies or impede sustainable groundwater management of the local aquifer. A less than significant impact would occur.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?*

i) *Result in substantial erosion or siltation on – or off-site;*

Less than Significant Impact. Stormwater generated off-site upstream from the Project would be diverted via constructed culvert beneath Dusty Trail Road and would then flow onto the project Property and then into Drainage Basin B. (Tetra Tech 2025c). The additional stormwater generated from the developed areas of the facility within the Project area would be directed into the retention/infiltration facility that is part of Drainage Basin C and would not be discharged off-site (Tetra Tech 2025). A less than significant impact would occur.

ii) *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on – or off-site;*

Less than Significant Impact. The retention/infiltration facility identified within Drainage Basin C in the Preliminary Drainage Study has been determined to have sufficient capacity to manage the additional stormwater generated by the proposed Project. Stormwater generated from off-site sources to the west would be conveyed into Drainage Basin B for infiltration into the existing sandy soils as the stormwater flows through this basin, after which any remaining stormwater would leave Drainage Basin B and infiltrate into the soil within a short distance east of the Project (Tetra Tech 2025c). A less than significant impact would occur.

iii) *Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or*

Less than Significant Impact. The Preliminary Drainage Study has identified that Drainage Basin C has sufficient capacity to manage additional stormwater generated by the proposed Project (Tetra Tech 2025c). A less than significant impact would occur.

iv) *Impede or redirect flood flows?*

L**ess than Significant Impact** The proposed Project would be constructed so that stormwater would not be impeded or redirected. No designated flood zones have been identified in the Project property (Tetra Tech 2025c).

d) *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Less than Significant Impact. The Project property has been mapped by the National Flood Insurance Program as being in Zone D, classified as areas in which flood hazards are undetermined, but possible (Federal Emergency Management Agency 2008). Most of the Mojave Watershed runoff is intercepted by the Yermo Flood Channel, which is located approximately 0.5 miles to the north of the Project. Mojave Watershed runoff that is not intercepted by the Yermo Flood Channel flows in an easterly direction between the Yermo Flood Channel and the Union Pacific railroad track embankment. Approximately half of the Mojave Watershed runoff that is not captured by the Yermo Flood Channel flows through the off-site drainage area and potentially onto the Project property (Tetra Tech 2025). As detailed earlier, stormwater generated from off-site sources to the west would be conveyed into Drainage Basin B. Much of the off-site stormwater that enters Drainage Basin B would infiltrate into the existing sandy soils. Any remaining stormwater would leave Drainage Basin B and infiltrate into the soil within a short distance east of the Project (Tetra Tech 2025c).

The Project property is not subject to hazards from tsunami or seiche. The proposed Project would not cause a release of pollutants due to flooding. A less than significant impact would occur.

e) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

No Impact. Using the best available data and information to classify California's 515 groundwater basins, the California Department of Water Resources (DWR) has established a technical process called Basin Prioritization. The DWR has classified groundwater basins in California into one of four categories (high-, medium-, low-, or very low-priority) based on components identified in California Water Code Section 10933(b) which include population, population growth, public supply wells, total wells, irrigated acreage, reliance on groundwater, documented impacts (such as overdraft or subsidence) and other relevant information. Each basin's priority determines which provisions of California Statewide Groundwater Elevation Monitoring, and the Sustainable Groundwater Management Act (SGMA) apply. SGMA requires medium- and high-priority basins to develop groundwater sustainability agencies, develop groundwater sustainability plans, and manage groundwater for long-term sustainability.

Based on the DWR SGMA Basin Prioritization Dashboard, the Project area is located within the Lower Mojave River Valley groundwater basin, which is categorized as a very low priority basin (Department of Water Resources 2025). Furthermore, the proposed Project would not conflict with a sustainable groundwater management plan, as groundwater would not be used during operation of the facility. No impact would occur.

Mitigation Measures

None required.

Hydrology and Water Quality Impact Conclusions

No significant impacts to hydrology and water quality resources have been identified or anticipated, and no mitigation measures are required.

DRAFT

11. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Environmental Setting

The land use designation in the General Plan Land Use Category for the Project property is Limited Industrial (LI) (San Bernardino County 2020).This land use designation identifies lands that are suitable locations for: light or limited industrial activities where operations are entirely enclosed in a structure and any limited exterior storage is fully screened from public view; suitable locations for employee-intensive uses, such as research and development, technology centers, corporate offices, clean industry, and supporting retail uses; and employment opportunities for residents in the surrounding area.

In addition, the Project property is currently zoned as IC (Community Industrial). The IC land use zoning designation provides for light industrial uses, such as light manufacturing uses, wholesale/warehouse services, contract construction services, transportation services, agriculture support services, incidental commercial and accessory residential uses, and similar and compatible uses. These uses shall have limited outside storage. The area surrounding the Project is currently dominated by vacant land, as described in Table 6 below.

Table 6. Land Use and Zoning

Area	Existing Land Use	General Plan Land Use Category	Land Use Zoning District
Project	Vacant	Limited Industrial (LI)	Community Industrial (IC)
North	Vacant	Limited Industrial (LI)	Community Industrial (IC)
South	Vacant	General Industrial (GI)	Regional Industrial (IR)
East	Vacant	General Industrial (GI)	Regional Industrial (IR)
West	Vacant	Resource/ Land Management (RLM)	Resource Conservation (RC)

The proposed Project would include construction of a Plastics Sorting and Processing Facility, which is not a described land use for lands zoned as Limited Industrial. As a result, the Applicant is required to seek a Conditional Use Permit from San Bernardino County, which must be issued prior to issuance of the Grading Plan and associated building permits. Some of the right-of-way of Marine Road that would be within the

warehouse footprint would require vacation. As part of the Project, Marine Road would be realigned around the warehouse with associated infrastructure. Marine Road would connect to Dusty Trail located on the western side of the Project property.

Impact Analysis

a) *Physically divide an established community?*

No Impact. The Project property is vacant land and is surrounded by vacant land. Rural residential dwellings are found north of the Project property. Development of the warehouse and associated infrastructure would occur in the southwestern corner of the property near existing rail lines adjacent to a Union Pacific rail switching yard. The Project would not divide an established community. No impact would occur.

b) *Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

Less than Significant Impact. As previously described, the Project property has a land use designation of Limited Industrial and a zoning designation of Community Industrial. The proposed Project is a unique industry and has not specifically been described as a land use/zoning type within the County, but is consistent with County goals of reducing the amount of material being placed within landfills. Issuance of a Conditional Use Permit (CUP) prior to issuance of grading and building permits would reduce impact to a less than significant level. A less than significant impact would occur.

Mitigation Measures

None required.

Land Use and Planning Impact Conclusions

No significant impacts to land use and planning resources have been identified or anticipated, and no mitigation measures are required.

DRAFT

12. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

Environmental Setting

San Bernadino County has identified mineral resource zones, which allow extraction industries to continue extracting mineral resources that support the region and national economy while minimizing negative impacts on the public and natural environment (San Bernardino County 2022, Policy Map NR-4 Mineral Resources Zones). The Project property is not located in an area that has been identified as a Mineral Resource Zone.

Impact Analysis

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

Less than Significant Impact. The Project property and adjacent areas to the Project property are located on lands identified by the County as having a moderate potential or possible location of aggregate resources (San Bernardino County 2020). The proposed Project would not involve any uses that would result in impacts to aggregate resources associated with the Project property. A less than significant impact would occur.

b) *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

Less than Significant Impact. As indicated earlier, the Project property and adjacent areas to the Project property are located on lands identified by the County as having a moderate potential or possible location of aggregate resources (San Bernardino County 2020b). The proposed Project would not involve removal of potential aggregate resources from the Project property. A less than significant impact would occur.

Mitigation Measures

None required.

Mineral Resources Impact Conclusions

No significant impacts to mineral resources have been identified or anticipated, and no mitigation measures are required.

13. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive groundborne vibration of groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

Environmental Setting

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs (i.e., the ears). Sound may be thought of as the mechanical energy of a moving object, transmitted by pressure waves through a medium to a human ear. For traffic and off-road vehicles associated with construction or stationary noise, the medium of concern is air. Noise is defined as sound that is loud, unpleasant, unexpected, or unwanted. An evaluation of potential Project-derived acoustics is found as Appendix F (Tetra Tech, Inc. 2024c).

Impact Analysis

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less Than Significant Impact. Residential structures are located approximately 1,000 feet north of the Facility adjacent to Yermo Road (Tetra Tech, Inc. 2024). Temporary construction noise and vibration impacts during grading and construction of the Facility have the potential to impact surrounding adjacent land uses. The degree of construction noise would vary depending on the type of construction activity taking place and the location of the activity relative to the surrounding properties. San Bernardino County Development Code (Division 3, Countywide Development Standards; Chapter 83.01, General Performance Standards, Section 83.01.080, Noise) sets interior and exterior noise standards for specific land uses by type of noise source. The noise standard for industrial properties is 70 A-weighted Sound Pressure Level (dBA) Equivalent Energy Level (Leq) from 7 A.M. to 10 P.M., and 70 dBA Leq from 10 P.M to 7 A.M. The San Bernardino County noise standard for residential properties is 55 dBA Leq from 7 A.M. to 10 P.M. and 45 dBA Leq from 10 P.M. to 7 A.M. Residential areas exposed to noise levels exceeding these standards are considered noise-impacted areas.

Grading of the site and construction of the warehouse would be completed during daylight hours, reducing potential perceived noise impacts to residences located beyond the Project property. A less than significant impact would occur.

b) *Generation of excessive groundborne vibration of groundborne noise levels?*

Less than Significant Impact. Vibration is a unique form of noise, as the energy is transmitted through buildings, structures, and the ground, whereas audible noise energy is transmitted through the air. Thus, vibration is generally felt rather than heard. The ground motion caused by vibration is measured as particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB). The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Construction activities such as blasting, pile driving, demolition, and excavation have the potential to generate ground vibrations near structures. Before construction, a geotechnical investigation may be required, which would use drilling techniques to retrieve soil samples. During construction, limited excavation would be conducted for trenching to install the water line and sewer piping from the building to the leach field, trenching to install the leach field, and trenching for building footings around the perimeter of the building. Residences adjacent to Yermo Road that are located 1,000 feet from the Facility are not likely to perceive groundborne vibration from construction equipment used to grade the site or construct the warehouse and associated infrastructure. Equipment used to collect soil samples during the geotechnical investigation would be far enough away from residences to not generate perceived noise or groundborne vibrations. A less than significant impact would occur.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project area to excessive noise levels?*

No Impact. As detailed in Section 4.9 – Hazards and Hazardous Materials, the closest airport to the Project property is Barstow-Daggett Airport, located at 39500 National Trails Highway, approximately 4.2 miles to the southeast of the Project property. The proposed Project is not within the vicinity of a private airstrip or within an airport land use plan. No impact would occur.

Mitigation Measures

None required.

Mineral Resources Impact Conclusions

No significant impacts from noise have been identified or anticipated, and no mitigation measures are required.

14. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Environmental Setting

The proposed Project is the construction of a Plastic Sorting and Processing Facility on lands that are currently undeveloped and vacant.

Impact Analysis

a) *Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

No Impact. Construction of the Project would require a temporary work force. Once in operation, the Project would employ 50 to 60 people. The Facility would be operated for 24 hours per day, seven days a week (Sunday through Saturday). Approximately 22 to 27 staff members would be on-site for each 12-hour shift Sunday through Saturday. Employees for construction and operation of the Facility are anticipated to come from the local workforce and would not induce substantial population growth. The temporary workforce for construction and the permanent workforce for operation of the Facility would access the site using existing roadways and would not require an expansion of roads that could induce population growth. No impact would occur.

b) *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

No Impact. The Project property is currently vacant and unimproved and does not include any existing housing. No housing would be removed to accommodate the proposed Project, and no impact would occur.

Mitigation Measures

None required.

Population and Housing Resources Impact Conclusions

No significant impacts to population and housing resources have been identified or anticipated, and no mitigation measures are required.

15. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Recreation/Parks?				X
e) Other public facilities?				X

Environmental Setting

Fire Protection. The Yermo-Calico Fire Department provides fire protective services to the area, and the Project property would be served by Yermo-Calico Fire Department's Volunteer Fire Department. The nearest fire station to the site is located at 38321 East Yermo Road, approximately 1.39 miles northeast of the Project property. The Yermo-Calico Fire Department, under the jurisdiction of Yermo Community Services District, has mutual-aid agreements with Daggett Volunteer Fire Department, Barstow Fire Protection District, San Bernardino County Fire Department (SBCFD) and the Marine Corps Logistics Base Fire Department (Yermo/Calico Volunteer Fire Department 2024).

Police Protection. The San Bernardino County Sheriff's Department (SBCSD) provides police protection services to the area, inclusive of the Project property. The nearest SBCSD patrol station to the Project property is located at 225 East Mountain View Street in Barstow, approximately ten miles west of the Project property. Due to the large expanse the deputies cover, they regularly assist and are assisted by the California Highway Patrol, Barstow Police Department and Bureau of Land Management Rangers (San Bernadino County Sheriff's Department 2024).

Schools. The nearest schools within five miles of the Project property include the following:

- Yermo School (grades Toddler/Kindergarten–8), 38280 Gleason Street, Yermo, located 1.3 miles to the northeast,
- Alternative Education (grades Toddler/Kindergarten–12), 33525 Ponnay, Daggett, located 3.7 miles to the southwest, and
- Silver Valley High School (grades 9–12), 35484 Daggett-Yermo Road, Yermo, located 2.4 miles to the west.

Recreation/Parks. The nearest park to the Project property is Norman Smith Park located at 38315 McCormick Street, approximately 1.3 miles northeast of the Project property. This park is maintained and managed by the Yermo Community Services Parks and Recreation District.

Other Public Facilities. The Project property is within the service area of the San Bernardino County Library system. The nearest library to the Project property is the Barstow Branch Library located at 304 East Buena Vista Street in the City of Barstow, approximately 10.1 miles west of the Project property.

Impact Analysis

a) *Fire protection?*

Less than Significant Impact. The Project would be required to conform to all fire protection and prevention requirements identified by San Bernadino County Fire Protection District, and all plans are subject to review by the Yermo-Calico Fire Department to ensure conformity to all fire protection and prevention measures. A less than significant impact would occur.

b) *Police Protection?*

Less than Significant Impact. The Project property is within the existing service area of the San Bernardino County Sheriff's Department (SBCSD), and the implementation of the Project would not substantially increase demands for police services. The incremental increase in demand would be offset by the tax base expansion from the proposed Project, generating additional funding for police protection services. A less than significant impact would occur.

c) *Schools?*

No Impact. The proposed Project is an industrial development with no residential uses that would increase the numbers of school-aged children. The Project is not expected to increase the numbers of residents that would indirectly cause an impact to existing schools or the need for additional school facilities. No impact would occur.

d) *Recreation/Parks?*

No Impact. The proposed Project is an industrial development, and is not expected to increase the numbers of residents in the area that may cause an increase in use of local parks such as the Norman Smith Park. No impact would occur.

e) *Other public facilities?*

No Impact. The proposed Project is an industrial development, and is not expected to increase the numbers of residents in the area that may cause an increase in use of other public facilities such as libraries. No impact would occur.

Mitigation Measures

None required.

Public Services Impact Conclusions

No significant impacts to public services resources have been identified or anticipated, and no mitigation measures are required.

16. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Environmental Setting and Impact Analysis

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

No Impact. The nearest park to the Project property is Norman Smith Park located at 38315 McCormick Street, approximately 1.3 miles northeast of the Project property. This park is maintained and managed by the Yermo Community Services Parks and Recreation District. The proposed Project is an industrial development, and is not expected to directly or indirectly increase the numbers of residents in the area that may cause an increase in use or deterioration of local parks such as Norman Smith Park. No impact would occur.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

No Impact. The proposed Project is the construction of a Plastics Sorting and Processing Facility and associated infrastructure. The Project does not include construction of recreational facilities and would not directly or indirectly increase the number of residents in the area. Project implementation would not require construction of new recreational facilities or expansion of existing recreational facilities located in the area. No impact would occur.

Mitigation Measures

None required.

Recreation Impact Conclusions

No significant impacts to public services resources have been identified or anticipated, and no mitigation measures are required.

17. TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Environmental Setting

The Project property is located in the unincorporated town of Yermo in San Bernardino County, and the region that the Project property is located within is bounded by the towns of Daggett and Barstow to the west, Interstate 15 (I-15) to the north, and Interstate 40 (I-40) to the south. I-15 and I-40 freeways provide access to the Project vicinity. Other major roadways in the vicinity include Yermo Road and Calico Road (Figure 1). The Barstow Marine Corps Logistics Base is located to the west of the Project property. The proposed Project would be in the northeast quadrant of the intersection of Dusty Trail and Marine Road (Figure 2).

Impact Analysis

a) *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Less than Significant Impact. A Project Trip Generation that analyzed potential traffic impacts from the proposed Project was prepared by Hernandez, Kroone & Associates (2025), and is found as Appendix G. San Bernardino County guidelines state that a traffic impact study is required if any of the following criteria are met.

- If a project generates 100 or more trips without consideration of pass-by trips during any peak hour.
- If a project is located within 300 feet of the intersection of two streets designated as Collector or higher in the County's General Plan or the Department's Master Plan or an impacted intersection as determined by the Traffic Division.
- If the project creates safety or operational concerns.
- If the project has the potential to generate Vehicle Miles Traveled that could result in a transportation impact, as noted in the significance criteria described in Section 4.17, Item b).

The proposed Project would not be located within 300 feet of an intersection of two streets designated as a traffic Collector, and a Plastics Sorting and Processing Facility would not be a safety or operational

concern. A conservative number has been projected for the trucks bringing raw material to the site and for the trucks leaving the site with sorted materials.

Table 7 shows the employee trips distributed across the day by their shifts. It is assumed that 10 percent of the employees will arrive late at the beginning of their shifts, and 10 percent will leave early at the end of their shift. With that assumption, Table 7 shows the Project Trips due to employees' trips to be outside of the A.M. Peak Period, and half outside of the P.M. Peak Period.

Table 7. Total Project Trips, Vehicles (Trucks) and Passenger Car Equivalents

Type	Daily	AM Peak Hours (7:00 AM – 9:00 AM)			PM Peak Hours (4:00 PM – 6:00 PM)		
		In	**Out**	**Total**	**In**	**Out**	**Total**
Vehicles (Trucks)	404	10	0	**10**	8	17	**75**
Passenger Car Equivalents	996	30	0	**30**	24	51	**75**

The total project trips are estimated to be less than 100 trips during peak hours and a less than significant impact would occur.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact. On December 28, 2018, the California Natural Resources Agency adopted revised State CEQA Guidelines. State CEQA Guidelines Section 15064.3 codifies the removal of vehicle delay and Level of Service (LOS) from consideration for transportation impacts under CEQA. With the adopted CEQA Guidelines, transportation impacts are to be evaluated based on a project's effect on Vehicle Miles Traveled (VMT). Lead agencies are allowed to continue using their current impact criteria, or to opt into the revised transportation guidelines. However, VMT must be used as of July 1, 2020, as required in State CEQA Guidelines Section 15064.3. VMT is a metric that accounts for the number of project generated vehicle trips and the distance of those trips.

County Guidelines state that a project may be determined to have a non-significant transportation impact if it meets one or more VMT screening criteria. Consistent with the County Guidelines, as the Project was not found to meet any of the applicable screening criteria, a Project-level VMT analysis has been prepared and is found as Appendix H (Urban Crossroads 2025). The San Bernardino County Transportation Analysis Model (SBTAM) was used to conduct the VMT analysis for the Project. The SBTAM is a modeling tool for calculating VMT that is preferred by San Bernardino County. Using SBTAM, the San Bernardino VMT per employee were calculated as presented in Table 8 below (Urban Crossroads 2025).

Table 8. Unincorporated San Bernardino County Baseline Vehicle Miles Traveled per Employee

	Unincorporated County of San Bernardino Employee VMT
Employment number	296,716
VMT	6,630,823
VMT per Employee	22.3
4 Percent Below Existing VMT[1]	21.4

[1] San Bernardino County VMT Threshold

The SBTAM then compares project-generated VMT against the San Bernardino County threshold (see Table 8). The results of that comparison show that the Project is estimated to generate VMT per employee below the County's adopted impact threshold (Urban Crossroads 2025).

Table 9. Project Vehicle Miles Traveled per Employee

	Baseline
Employment	54
VMT	740
VMT per Employee	13.7
County Threshold	21.4
Exceeds Threshold?	**No**

Finally, the SBTAM model calculated boundary VMT and boundary VMT per services population estimates for cumulative conditions. Boundary VMT is calculated using the sum of all weekday VMT on the roadway network within a designated boundary. As illustrated in Table 10, the with-project conditions do not exceed the San Bernardino County's adopted threshold of a net increase above the no-project condition (Urban Crossroads 2025).

Table 10. Cumulative Boundary Vehicle Miles Traveled

	Service Population	Boundary VMT[1]	VMT per Service Population	Exceeds Threshold?
Countywide Cumulative-No Project	3,761,191	94,743,867	25.5	
Countywide Cumulative-With Project	3,761,251	94,723,749	25.2	**No**
10-mile Cumulative-No Project	32,740	1,584,186	48.4	
10-mile Cumulative-With Project	32,800	1,584,186	44.3	**No**

[1]VMT calculated using the Boundary Method that sums all weekday VMT on the roadway network within a designated boundary.

In summary, the Project was evaluated against screening criteria as outlined in the County Guidelines. The Project was not found to meet any of the screening criteria, and a VMT analysis was performed. Project-generated VMT estimates were calculated from SBTAM and compared to the County's adopted impact threshold of 4 percent below existing Countywide VMT per employee. Project-generated VMT per employee was found to be below the County's impact threshold. The Project's cumulative effect on VMT was found to be unchanged or below the County's adopted impact threshold of no net increase in VMT per service population with project conditions (Urban Crossroads 2025). A less than significant effect would occur.

c) *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?*

Less than Significant Impact. Access to the Project would be from Yermo Road to Dusty Trail to one ingress and one egress access way (Figure 4). The Project access would have signage directing trucks to the loading bays, and employees/visitors to the parking area on the west side of the Facility. Facility roads and signage would be constructed to prevent increased hazards to visitors and workers due to geometric design or incompatible uses. All Project road improvements would incorporate geometric design features consistent with San Bernardino County standards and as required by the Conditions of Approval for the Conditional Use Permit. These features include appropriate roadway cross-sections, pavement widths, and driveway entry details such as number, spacing, width, angle, and apron radii. Safe sight distances will be provided at intersections and driveways to maintain adequate visibility for vehicles and pedestrians. Where necessary, turnarounds will be provided, and roadway alignments, grades, and turning radii will be designed in accordance with County standards to ensure safe circulation for passenger vehicles, trucks, and emergency responders. Road profiles, dedications, and improvements along Yermo Road, Dusty Trail, and Marine Road will be designed consistent with County requirements to ensure safe traffic flow and transitions between Project roadways and existing public roads.

With incorporation of these design features and compliance with the Conditions of Approval, the Project would not substantially increase hazards due to geometric design features or incompatible uses. A less than significant impact would occur.

d) *Result in inadequate emergency access?*

Less than Significant Impact. The Project has been designed to allow adequate access by emergency vehicles. The Project has been subjected to San Bernardino County review and approval, and design features have been incorporated to accommodate emergency equipment such as fire trucks

and other emergency response vehicles such as ambulances. The Community Safety Division of the San Bernardino County Fire Department provided approval of the site plan on May 28, 2025 (Tetra Tech 2024c). A less than significant impact would occur.

Mitigation Measures

None required.

Transportation Impact Conclusions

No significant impacts to transportation resources have been identified or anticipated, and no mitigation measures are required.

DRAFT

18. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, lace, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		X		
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

Environmental Setting

The Project property is located in territory known ethnographically to have been occupied by the Serrano and the Kawaiisu. The Kawaiisu were primarily situated around a low mountainous ridge between the Mojave Desert and the San Joaquin Valley, which included portions of the Tehachapi Mountains and the Sierra Nevada. The Serrano people inhabited the San Gabriel and San Bernardino Mountains, the Mojave Desert to the north, and the San Bernardino Valley to the south, detailed in Appendix C (Bargas Consulting, Inc. 2024).

As discussed in Section 4.5 – Cultural Resources, the SCCIC records search and Project property survey did not identify any previously recorded cultural resources on the Project property, although 63 previously recorded resources were identified within 0.5 miles of the Project property. Most of these resources are historic-era built-environment resources, with 10 precontact cultural resources identified, consisting of lithic scatters and isolates. No archaeological resources were observed as a result of the field survey for the Project property (Bargas Consulting, Inc. 2024).

The NAHC's Sacred Lands File (SLF) search results were negative for the Project (Bargas Consulting, Inc. 2024) (Refer to Appendix C for the NAHC letter). The NAHC maintains confidential records of sites and landscapes with traditional, cultural, or religious value to the Native American community. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources on any Project property. As specified in the PRC Section 21080.31 as amended by AB 52, lead agencies must provide notice inviting consultation to California Native American Tribes that are traditionally and culturally affiliated with the geographic area of a proposed project, if the Tribe has submitted a request in writing to be notified of proposed projects.

The NAHC provided a list of 14 contacts representing the following seven Native American Tribes that may have knowledge of additional cultural resources within or near the Project property:

- Kern Valley Indian Community
- Morongo Band of Mission Indians

- Quechan Tribe of the Fort Yuma Reservation
- San Fernando Band of Missions Indians
- Yuhaaviatam of San Manuel Nation
- Serrano Nation of Mission Indians
- Twenty-Nine Palms Band of Mission Indians

AB 52 Consultation was initiated by the County on February 10, 2025 and concluded on March 5, 2025. Consultation notification was provided to Twenty-Nine Palms Band of Mission Indians, Colorado River Indians Tribes, Fort Mohave Indian Tribe, Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN), Morongo Band of Mission Indians and San Gabriel Band of Mission Indians, Tongva.

The YSMN requested that the County include specified mitigation measures for Section 4.5 – Cultural Resources and this section (Section 4.18 – Tribal Cultural Resources) to ensure protection of Tribal Cultural Resources. The requested mitigation measures have been included in Section 4.5 and as follows.

Impact Analysis

a) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

Less Than Significant Impact with Mitigation Incorporated. No California Register of Historic Place (CRHR)-eligible resources or resources listed in a local register of historic resources have been identified at the Project property. No specific resources important to interested tribes have been identified following AB 52 consultation. However, consultation with Twenty-Nine Palms Band of Mission Indians, Colorado River Indians Tribes, Fort Mohave Indian Tribe, Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN), Morongo Band of Mission Indians and San Gabriel Band of Mission Indians, Tongva, resulted in the proposition of mitigation measures provided by YSMN. With implementation of **Mitigation Measures TCR-1** and **TCR-2**, impacts to Tribal Cultural Resources would be reduced to less than significant.

b) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision I of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Less Than Significant Impact with Mitigation Incorporated. The records search and pedestrian survey did not identify any significant Tribal Cultural Resources within the Project property, and the NAHC Sacred Land File search results were negative. As such, there would be no impact on any known Tribal Cultural Resources from the proposed Project. However, to ensure that no such impacts would occur to previously unknown resources, **Mitigation Measures TCR-1** and **TCR-2** would be implemented if precontact cultural resources are discovered during project implementation. As discussed above in Section 4.18, Item a), implementation of these measures would reduce potentially significant impacts to Tribal Cultural Resources to less than significant.

Mitigation Measures

Mitigation Measure TCR-1. The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in **Mitigation Measured CUL-1**, to notify of any precontact cultural resources discovered during Project implementation, and shall be provided information regarding the nature of the find, so as to provide Tribal input regarding significance and treatment of the find. Should the find

be deemed significant, as defined by CEQA (as amended, June 30, 2025 with the signing of Assembly Bill 130 and Senate Bill 131), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor that represents YSMN to be present for the remainder of the Project, should YSMN elect to place a monitor on-site.

Mitigation Measure TCR-2. Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and Lead Agency for dissemination to YSMN. The Lead Agency and/or Applicant shall, in good faith, consult with YSMN throughout the life of the Project.

Tribal Cultural Resources Conclusions

Significant impacts to Tribal Cultural Resources have been identified or anticipated. With the incorporation of **Mitigation Measures TCR-1** and **TCR-2**, impacts to this resource would be reduced to a less than significant level.

DRAFT

19. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?		X		
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Environmental Setting and Impact Analysis

a) *Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Less than Significant Impact with Mitigation Incorporated.

Water Services: Liberty Utilities provided a Conditional Will-Serve Letter dated October 4, 2024. The Project is outside of the current Liberty service area, but Liberty will render service to the property upon submittal and approval by the CPUC of the addition of the above property to their service area. This action would be executed by Liberty. Electricity would be provided to the Facility by Southern California Edison (SCE). The existing electrical poles located along Marine Road would be re-routed around the warehouse.

Wastewater/Sewer: A septic designer would be engaged, and a percolation test would be performed in order to obtain the necessary septic permits from the County and Environmental Health Services. Silver Valley Septic would size and install a septic tank on the property, and Freepoint would contract with them for regular sewage removal. A Will-Serve Letter was received on August 21, 2024. Implementation of **Mitigation Measure GEO-2** would ensure that soils associated with the Project property are adequate to support the septic system that would be installed to manage project-generated wastewater. Stormwater generated on-site would be directed to a retention/infiltration facility

located on the north side of the Facility, north of the loading dock. With incorporation of **Mitigation Measure GEO-2**, impacts would be reduced to a less than significant level.

Electric Power: Southern California Edison is aware of the future power needs for the Facility and has provided a Will-Serve Letter dated August 27, 2024.

Communication: A communication fiber would be needed to operate and optimize the equipment controls in the warehouse. Freepoint has received initial confirmation of service availability from Spectrum Business in an email dated August 8, 2024. A Will-Serve Letter was also received from Frontier Communications dated August 22, 2024.

b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

Less than Significant Impact. Liberty Utilities provided a Conditional Will-Serve Letter dated October 4, 2024. Liberty Utilities has provided information to the Applicant that it is in the process of integrating regional water utilities to include the Project property. While the Project is outside of the current service area, Liberty Utilities would render service to the property upon submittal and approval by the CPUC of the addition of the Project property to their service area. This action would be executed by Liberty. A less than significant impact would occur.

c) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less than Significant Impact. As indicated earlier, wastewater generated by the Facility would be managed using an on-site septic system. A less than significant impact would occur.

d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less than Significant Impact. During processing of plastic feedstock, there may be materials present that cannot be processed or that are non-plastics that cannot be recycled. These wastes would be bundled and transported to an area landfill, such as the Barstow Landfill, located at 32553 Barstow Road, Barstow, California 92311. Other landfills that may be used for disposal of residuals include the Landers Sanitary Landfill, San Timoteo Sanitary Landfill, Mid-Valley Sanitary Landfill and Victorville Sanitary Landfill. It is estimated that up to 30 percent of materials received by the Facility may be disposed of in a landfill. Up to 70 percent of plastics that would have otherwise been disposed of in a California landfill would be processed and transported to the Arizona facility for further use. A less than significant impact would occur.

e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Less than Significant Impact. As the Project would be processing plastic feedstock, which is a solid waste, the Applicant would be required to seek and receive a Full Solid Waste Facility Permit (SWFP) issued by CalRecycle. A SWFP is a legal document required for facilities that handle solid waste. The SWFP ensures proper management of solid wastes and sets standards for operation, waste handling, monitoring and reporting requirements. A less than significant impact would occur.

Mitigation Measures

Mitigation Measure GEO-2. Prior to the issuance of the grading permit, the Applicant shall conduct a percolation testing of subsurface soils to determine if the soils are capable of adequately supporting use of a septic system at the warehouse.

Utilities and Service Systems Impact Conclusions

A significant impacts to Utilities and Services resources has been identified or anticipated. With incorporation of **Mitigation Measure GEO-2,** impacts to this resource would be reduced to a less than significant level.

DRAFT

20. WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project?				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

Environmental Setting

The Project property is not within or near a State Responsibility Area (SRA), which are areas recognized by the California Board of Forestry and Fire Protection as areas where the California Department of Forestry and Fire Protection (Cal Fire) is the primary emergency response agency responsible for fire suppression and prevention (https://bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/; accessed December 23, 2024). The Project property is not mapped within a Fire Hazard Severity Zone (California Department of Forestry and Fire Protection 2025). The Project property is in an area of the County determined to be Non-Wildland/Non-Urban for risk for impacts from wildfire (San Bernardino County 2022, Policy Map HZ-5 Fire Hazard Severity Zones). In addition, as discussed in Section 4.9 – Hazards and Hazardous Materials, Item g), the Project property has not been mapped within a Fire Safety Overlay District (San Bernardino County 2010). As a result, construction and operation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Impact Analysis

For the impact analysis, questions 4.20 (a) through (d) listed below are addressed together.

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The following response addresses questions 4.20(a), (b), (c), and (d), as identified above.

No Impact. The Project property is not within or near a State Responsibility Area, nor lands classified, or recommended to be classified, as a Very High Fire Hazard Severity Zone. As such, the proposed Project would not result in any impacts related to wildfire. No impact would occur.

Mitigation Measures

None required.

Wildfire Impact Conclusions

No significant impacts related to wildfire have been identified or anticipated, and no mitigations are required.

DRAFT

21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less Than Significant Impact with Mitigation Incorporated. As described in Section 3 – Detailed Project Description, the Applicant is proposing the development of the Project to recover waste plastics for recycling. The Project would consist of a large warehouse, with Phase 2 consisting of an 80,000 square foot extension located on the eastern side of the warehouse and a 39,900 square foot extension located on the southwest side of the warehouse. The warehouse would contain a staging area for inbound material, sorting and processing equipment, and storage areas for both inbound material awaiting processing and outbound material awaiting pickup. A total of approximately 41.6 acres of the site would require grading. Prior to grading, vegetation at the site would be grubbed off and disposed of as green waste. Grading of the Project property would be completed so that there would be a zero import/export of soil. During Project operation, trucks would be used to transport post-industrial waste and post-consumer material from MRFs in the southern California region to the Facility. The trucks bringing feedstock to the site would enter the site from Dusty Trail to the truck dock located on the northeastern side of the warehouse. Empty trucks would exit the site back onto Dusty Trail, travel north to Yermo Road and beyond. Once the feedstock is unloaded into the warehouse, the material would be sorted to recover waste plastics and other recyclables—the recovered waste plastics would be prepared for shipment to a recycling facility being permitted and constructed in Eloy, Arizona (the "Arizona facility). The goal is to utilize the adjacent Union Pacific rail to send the plastic feedstock to the Arizona facility; however, there may be an interim period when the feedstock may need to be delivered

to the Arizona facility via truck. The Facility would be designed to sort up to 855 U.S. short tons (tons) per day of post-industrial and post-consumer waste.

As discussed above in Sections 4.4 – Biological Resources, 4.5 – Cultural Resources, and 4.18 – Tribal Cultural Resources, mitigation measures are provided to reduce impacts to biological, cultural, and Tribal Cultural Resources during Project construction. **Mitigation Measures BIO-1** through **BIO-3** addresses the need to conduct vegetation removal activities outside of nesting bird season, or alternately to conduct a nesting bird survey prior to initial ground disturbance. **Mitigation Measures CUL-1** through **CUL-4** address inadvertent discovery of archaeological resources and human remains, respectively. **Mitigation Measures TCR-1** and **TCR-2** address inadvertent discovery of Tribal Cultural Resources encountered during project implementation. With implementation of the mitigation measures as identified above, the Project impacts on biological resources, cultural resources, and Tribal Cultural Resources would be less than significant.

b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Less Than Significant Impact. As described in Section 4.11 – Land Use and Planning, the County land use designation for the Project property is Limited Industrial, and the current zoning is Community Industrial. The surrounding area is largely vacant land. Even though the proposed Project is a unique industry and has not specifically been described as a land use/zoning type within the County, it is consistent with County goals of reducing the amount of material being placed within landfills. The Applicant is required to seek and obtain a Conditional Use Permit (CUP) prior to issuance of grading and building permits. The Project would not contribute to a significant increase in existing demand for services or resources in the area, nor would it result in significant impacts to air quality, noise, or traffic in the area from construction or operation of the Facility. All potential impacts have been evaluated and deemed to be neither individually significant nor cumulatively considerable in terms of any adverse effects upon the region, the local community, or its inhabitants. A less than significant cumulative impact would occur.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant Impact. As discussed in Section 4.21, Item b), all potential impacts have been evaluated and deemed to be neither individually significant nor cumulatively considerable in terms of any adverse effects. The analysis of air quality impacts that would occur during construction and operation were determined to be less than significant when compared to threshold criteria set by the Mojave Desert Air Quality District. The proposed Project would cause a less than significant impact to expose sensitive receptors to substantial pollutant concentrations or odor. During construction and operation, the Project would generate greenhouse gas amounts that would be less than the significance threshold established by the Mojave Desert Air Quality District. Construction of the Project would be completed during daylight hours to reduce potential perceived noise impacts to residential dwellings located beyond the Project property. Trenching and soil sampling conducted for a geotechnical survey would be far enough from residential dwellings to not generate perceived noise or groundborne vibrations. At a minimum, the Project would be required to meet the County conditions of approval for the Project to be implemented. It is anticipated that all such conditions of approval would further ensure that no potential for adverse impacts would be introduced by construction activities or initial or future land uses authorized by the Project approval. There are no known substantial adverse

effects on human beings that would be caused by the proposed Project. No significant environmental impacts would result from the Project with implementation of the mitigation measures described herein.

DRAFT

SECTION 5 – SUMMARY OF MITIGATION MEASURES

The following mitigation measures were identified to reduce impacts to less than significant:

Mitigation Measure BIO-1. Vegetation removal activities are to be conducted outside of the nesting bird season (typically February 15th to August 31st). If grading and clearing activities must occur during the nesting season, a nesting bird survey shall be conducted by a qualified biologist at two intervals, one within 30 days and one within three days of initial ground disturbance for the Project. If nesting birds are not found within the Project property, no further action will be required. If nesting birds are observed, a buffer zone between construction activities and the nesting bird shall be established by a qualified biologist. The buffer zone shall be determined by the type of nesting bird. A typical buffer zone would be 250 feet for nesting passerine birds (songbirds) and 500 feet for nesting raptors.

Mitigation Measure BIO-2 Prior to ground disturbance, a focused survey for desert tortoise at the study area Will be conducted. The focused survey for desert tortoise will be conducted during active tortoise periods (April through May, September through October) using protocols specified by the United States Fish and Wildlife Service (2019). The focused survey for desert tortoise will be timed to coincide with the nesting bird survey. Both surveys will happen concurrently, depending on the project schedule.

Mitigation Measure BIO-3 A preconstruction survey of the study area for burrowing owls will be completed within 30 days before ground-disturbing activities to prevent direct harm to the owls. This survey will coincide with the **Mitigation Measure BIO-1** for nesting bird survey. If burrowing owls are observed within the study area, no work can occur within buffer areas detailed in the 2012 guidelines (California Department of Fish Game 2012) and CDFW must be contacted to develop a mitigation plan.**Mitigation Measure CUL-1.** In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist, meeting or exceeding the Secretary of Interior's Professional Qualification Standards for archaeology, shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted regarding any precontact finds, as detailed within **Mitigation Measure TCR-1**, and shall be provided further information once the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input regarding to significance and treatment of the find.

Mitigation Measure CUL-2. If significant precontact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within **Mitigation Measure TCR-1**. The archaeologist shall monitor the remainder of the Project and implement the Plan accordingly.

Mitigation Measure CUL-3. Prior to ground disturbance, a qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training will be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Tribal representatives from the Consulting Tribes, such as Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN, also known as San Manuel Band of Mission Indians) will be allowed to attend and/or participate in the WEAP training, should they elect to, and will be given ten days' notice prior to the training. Archaeological sensitivity training will include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.

Mitigation Measure CUL-4. If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease, and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.

Mitigation Measure GEO-1. Prior to issuance of the grading permit, the Applicant shall conduct a geotechnical investigation to determine that soils beneath the Project property are not expansive as defined in Table 18-1-B of the Uniform Building Code. If the geotechnical investigation determines that soils are expansive as defined in Table 18-1-B, then the geotechnical recommendations shall include the design of facilities and construction specifications to address adverse conditions from expansive soils and shall conform to applicable design codes, guidelines, and standards.

Mitigation Measure GEO-2. Prior to the issuance of the grading permit, the Applicant shall conduct percolation testing of subsurface soils to determine if soils are capable of adequately supporting use of a septic system at the warehouse. The leach field will be sized appropriately based on test results. If subsurface soils are incapable of supporting a standard septic system, a qualified civil engineer or geologist shall design an alternative onsite wastewater treatment system consistent with the State Water Resources Control Board's OWTS Policy (Tier 1 or, if applicable, Tier 2 Local Agency Management Program) and San Bernardino County requirements for construction in unsuitable soils.

Mitigation Measure GEO-3. Prior to the issuance of the grading permit, the Applicant shall prepare for approval by San Bernardino County a Paleontological Resource Impact Mitigation Monitoring Program. The approved paleontologist shall be prepared to quickly salvage fossils as they are unearthed to avoid construction delays. The paleontologist shall also remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The paleontologist shall have the power to temporarily halt or divert grading equipment to allow for removal of abundant or large specimens. Collected samples of sediments shall be washed to recover small invertebrate and vertebrate fossils. Recovered specimens shall be prepared so that they can be identified and permanently preserved. Specimens shall be identified and curated and placed into an accredited repository (such as the Western Science Center or the Riverside Metropolitan Museum) with permanent curation and retrievable storage. A report of findings, including an itemized inventory of recovered specimens, shall be prepared upon completion of the steps outlined above. The report shall include a discussion of the significance of all recovered specimens. The report and inventory, when submitted to San Bernardino County, will signify completion of the program to mitigate impacts to paleontological resources.

Mitigation Measure HAZ-1. In the event that more than 10,000 pounds of propane are stored on-site, a Risk Management Plan shall be developed by the Applicant and registration completed with the U.S. EPA within six months of Facility commissioning.

Mitigation Measure TCR-1. The Yuhaaviatam of San Manuel Nation Cultural Resources Management Department (YSMN) shall be contacted, as detailed in **Mitigation Measured CUL-1**, to notify of any precontact cultural resources discovered during Project implementation, and shall be provided information regarding the nature of the find, so as to provide Tribal input regarding significance and treatment of the find. Should the find be deemed significant, as defined by CEQA (as amended, June 30, 2025 with the signing of Assembly Bill 130 and Senate Bill 131), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor that represents YSMN to be present for the remainder of the Project, should YSMN elect to place a monitor on-site.

Mitigation Measure TCR-2. Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and Lead

Agency for dissemination to YSMN. The Lead Agency and/or Applicant shall, in good faith, consult with YSMN throughout the life of the project.

DRAFT

SECTION 6 – REFERENCES

Bargas Consulting, Inc.

2024 Cultural Resources Survey Report for the Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility, Yermo, San Bernardino County, California. August 2024. Revised October 2024, March 2025, April 2025.

California Air Resources Board

2023 Maps of State and Federal Area Designations. Updated November 2023 for Federal and State. Accessed October 2024. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations

2024 GHGs Descriptions & Sources in California. Accessed October 2024, http://www.arb.ca.gov/cc/inventory/background/ghg.htm

California Code of Regulations

2024 Title 14 § 15355 Cumulative Impacts

California Department of Conservation

2015 Fault Activity Map of California https://maps.conservation.ca.gov/cgs/fam/, accessed 21 December 2024

2022 California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed 13 December 2023

2021 Yermo 7.5-minute topographic quadrangle, 2021

California Department of Forestry and Fire Protection (Cal Fire)

2025 Fire Hazard Severity Zone. Phase 4, March 24, 2025

California Office of Environmental Health Hazard Assessment Air Toxics Hot Spots Program

2015 Guidance Manual for Preparation of Health Risk Assessments. Accessed June 2024, URL: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

California Department of Environmental Protection Agency

2015 Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments

California Department of Fish and Game

2012 Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, March 7, 2012

Department of Water Resources

2025 SGMA Basin Prioritization Dashboard. Bulletin 118. https://gis.water.ca.gov/app/bp-dashboard/final/ accessed September 4, 2025

Dudek

2023 Paleontological Resources Review-Yermo Convenience Store and Gas Station. https://www.sbcounty.gov/uploads/LUS/Environmental/Daggett%20for%20website/3.5%20Cultural%20Tribal%20Paleo%20Resources.pdf Accessed 21 December 2024

Environmental Protection Agency

2024 Hazardous Waste Recycling. https://www.epa.gov/hw/hazardous-waste-recycling. Accessed 30 December 2024

Federal Emergency Management Agency

2008 San Bernardino County, California and Incorporated Areas, Panel 3975 of 940. Map Number 06071C3975H. Map Revised August 28, 2008

Frehr Peers

2020 Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment. San Bernardino County Transportation Authority

Geosyntec Consultants

2024 Phase I Environmental Site Assessment. Subject Property: Approximately 80 Acres of the 37265 Yermo Road, Yermo, California 92398

Hernandez, Kroone & Associates

2025 Project Trip Generation Letter 24-1010

Holland, R.

1986 Terrestrial natural communities of California. Department of Fish and Game

Mohave Desert Air Quality Management District

2020 California Environmental Quality Act and Federal Conformity Guidelines. February 2020, accessed November 2024. https://www.mdaqmd.ca.gov/home.

Mojave Water Agency

2024 Groundwater Basins and Water Sheds. https://www.mojavewater.org/data-maps/basin-watersheds/, accessed 21 December 2024

San Bernardino County

2007 San Bernardino County Land Use Plan-General Plan Geologic Hazard Overlays

2010 San Bernardino County Land Use Plan-General Plan Hazards Overlays

2019a County of San Bernardino General Plan Renewable Energy and Conservation Element. Adopted August 8, 2017. Amended February 2019

2019b Daggett Solar Power Facility Draft Environmental Impact Report, Volume 1 of 2. State Clearinghouse No. 2018041007

DRAFT

2020 Countywide Plan Mineral Land Classification. https://www.arcgis.com/apps/webappviewer/index.html. Accessed 04 September 20252022
Countywide Plan. County Policy Plan, September 2022

Draft Policy Map HZ-5 Fire Hazard Severity Zones

Draft Policy Map NR-3 Scenic Routes & Highways, October 27, 2020

Draft Policy Map NR-4 Mineral Resources Zones, October 27, 2020

Draft Policy Map NR-5 Agricultural Resources

San Bernardino County Sheriff's Department

2024 https://wp.sbcounty.gov/sheriff/patrol-stations/barstowtrona/

Sawyer, J.O. and T. Keeler-Wolf

2009 A Manual of California Vegetation, Second Edition, California Native Plant Society, Sacramento, California

Tetra Tech, Inc.

2024 Freepoint Yermo Project-Acoustical Project Information

2025a Biological Reconnaissance and Habitat Assessment Freepoint Eco-Systems Plastics Sorting and Processing Facility. Yermo, San Bernardino County

2025b California Emissions Estimator Model (CalEEMod) version CalEEMod.2022.1.1.30

2025c Preliminary Drainage Study. DRNSTY-2025-00043. Proposed Plastics Sorting and Processing Facility, Yermo, San Bernardino County, California

Urban Crossroads

2025 Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility Vehicle Miles Traveled (VMT) Analysis

United States Department of Agriculture

2024 Custom Soil Resources Report for San Bernardino County, California Mojave River Area, California. https://websoilsurvey.nrcs.usda.gov/app. Accessed 29 October 2024

United States Department of Energy

2025 Alternative Fuels Data Center. Propane Benefits and Considerations. https://afdc.energy.gov/fuels/propane-benefits. Accessed April 16, 2025

United States Fish and Wildlife Service

2019 Preparation for Any Action that May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*), October 26, 2018.

United States Geological Survey

2021 Yermo 7.5-minute topographic quadrangle, 2021

2023 Mohave Groundwater Resources. Water-Level, Water-Quality and Land-Subsidence Studies in the Mojave River and Morongo Groundwater Basins https://ca.water.usgs.gov/mojave/index.html. Accessed 21 December 2024

2024 The National Geologic Map Database MapView. https://ngmdb.usgs.gov/ngmdb/ ngmdb_home.html. Accessed 21 December 2024.

Yermo/Calico Volunteer Fire Department

2024 https://5280fire.com/home/other-states-fire-apparatus-stations/california/yermo-calico-volunteer-fire-department// Accessed 23 December 2024

DRAFT

APPENDIX A:
CALEEMOD Air Quality and Greenhouse Gas Model Output

DRAFT

Yermo Plastics Sorting and Processing Facility Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Building Construction (2026) - Unmitigated

3.6. Building Construction (2026) - Mitigated

3.7. Building Construction (2027) - Unmitigated

3.8. Building Construction (2027) - Mitigated

3.9. Paving (2027) - Unmitigated

3.10. Paving (2027) - Mitigated

3.11. Architectural Coating (2027) - Unmitigated

3.12. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

6.4.1. Temperature and Extreme Heat

6.4.2. Drought

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Yermo Plastics Sorting and Processing Facility
Construction Start Date	4/1/2026
Operational Year	2027
Lead Agency	San Bernardino County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	5.00
Precipitation (days)	8.20
Location	34.896720946568664, -116.84730669189778
County	San Bernardino-Mojave Desert
City	Unincorporated
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5111
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.30

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	544	1000sqft	12.5	543,900	0.00	—	—	—

Parking Lot	485	1000sqft	11.1	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-4*	Use Local and Sustainable Building Materials
Construction	C-5	Use Advanced Engine Tiers
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-13	Use Low-VOC Paints for Construction
Transportation	T-30*	Use Cleaner-Fuel Vehicles
Energy	E-7*	Require Higher Efficacy Public Street and Area Lighting
Energy	E-25*	Install Electric Heat Pumps
Water	W-4	Require Low-Flow Water Fixtures
Waste	S-1/S-2	Implement Waste Reduction Plan
Refrigerants	R-7*	Reduce Disposal Emissions
Area Sources	AS-1	Use Low-VOC Cleaning Supplies
Area Sources	AS-2	Use Low-VOC Paints
Miscellaneous	M-4*	Require Environmentally Responsible Purchasing

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.83	3.23	29.2	31.8	0.06	1.24	7.89	9.14	1.14	3.99	5.14	—	8,448	8,448	0.28	0.51	18.1	8,624

Mit.	2.13	1.98	7.52	36.8	0.06	0.29	7.89	8.02	0.27	3.99	4.12	—	8,448	8,448	0.28	0.51	18.1	8,624
% Reduced	44%	39%	74%	-16%	—	77%	—	12%	76%	—	20%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	74.9	74.9	13.9	25.9	0.05	0.42	3.75	4.17	0.39	0.91	1.30	—	8,076	8,076	0.15	0.51	0.47	8,234
Mit.	74.8	74.8	7.79	27.8	0.05	0.29	3.75	4.04	0.27	0.91	1.18	—	8,076	8,076	0.15	0.51	0.47	8,234
% Reduced	< 0.5%	< 0.5%	44%	-7%	—	32%	—	3%	31%	—	9%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.64	9.44	9.22	15.3	0.03	0.32	2.13	2.45	0.29	0.63	0.92	—	4,651	4,651	0.10	0.29	4.02	4,743
Mit.	9.36	9.26	4.50	16.4	0.03	0.16	2.13	2.29	0.15	0.63	0.76	—	4,651	4,651	0.10	0.29	4.02	4,743
% Reduced	3%	2%	51%	-7%	—	49%	—	6%	48%	—	18%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.76	1.72	1.68	2.80	< 0.005	0.06	0.39	0.45	0.05	0.11	0.17	—	770	770	0.02	0.05	0.67	785
Mit.	1.71	1.69	0.82	3.00	< 0.005	0.03	0.39	0.42	0.03	0.11	0.14	—	770	770	0.02	0.05	0.67	785
% Reduced	3%	2%	51%	-7%	—	49%	—	6%	48%	—	18%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.83	3.23	29.2	31.8	0.06	1.24	7.89	9.14	1.14	3.99	5.14	—	8,448	8,448	0.28	0.51	18.1	8,624
2027	2.50	2.15	13.0	30.3	0.05	0.38	3.75	4.13	0.35	0.91	1.26	—	8,330	8,330	0.14	0.49	16.3	8,495

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.47	2.14	13.9	25.9	0.05	0.42	3.75	4.17	0.39	0.91	1.30	—	8,076	8,076	0.15	0.51	0.47	8,234
2027	74.9	74.9	13.2	25.0	0.05	0.38	3.75	4.13	0.35	0.91	1.26	—	7,966	7,966	0.15	0.49	0.42	8,118
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.49	1.28	9.22	14.9	0.03	0.32	2.13	2.45	0.29	0.63	0.92	—	4,194	4,194	0.10	0.22	3.29	4,266
2027	9.64	9.44	7.87	15.3	0.03	0.23	2.13	2.36	0.21	0.52	0.73	—	4,651	4,651	0.09	0.29	4.02	4,743
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.27	0.23	1.68	2.73	< 0.005	0.06	0.39	0.45	0.05	0.11	0.17	—	694	694	0.02	0.04	0.54	706
2027	1.76	1.72	1.44	2.80	< 0.005	0.04	0.39	0.43	0.04	0.09	0.13	—	770	770	0.01	0.05	0.67	785

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.13	1.98	7.52	36.8	0.06	0.29	7.89	8.02	0.27	3.99	4.12	—	8,448	8,448	0.28	0.51	18.1	8,624
2027	2.07	1.90	7.32	32.2	0.05	0.29	3.75	4.03	0.27	0.91	1.18	—	8,330	8,330	0.14	0.49	16.3	8,495
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.00	1.85	7.79	27.8	0.05	0.29	3.75	4.04	0.27	0.91	1.18	—	8,076	8,076	0.15	0.51	0.47	8,234
2027	74.8	74.8	7.58	26.9	0.05	0.29	3.75	4.03	0.27	0.91	1.18	—	7,966	7,966	0.15	0.49	0.42	8,118
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.93	0.87	3.88	16.4	0.03	0.14	2.13	2.27	0.13	0.63	0.76	—	4,194	4,194	0.10	0.22	3.29	4,266
2027	9.36	9.26	4.50	16.4	0.03	0.16	2.13	2.29	0.15	0.52	0.67	—	4,651	4,651	0.09	0.29	4.02	4,743
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	0.17	0.16	0.71	3.00	< 0.005	0.03	0.39	0.41	0.02	0.11	0.14	—	694	694	0.02	0.04	0.54	706
2027	1.71	1.69	0.82	2.99	< 0.005	0.03	0.39	0.42	0.03	0.09	0.12	—	770	770	0.01	0.05	0.67	785

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.2	23.2	33.8	153	0.26	0.34	16.3	16.6	0.32	4.13	4.45	604	36,359	36,963	62.4	1.46	202	39,160
Mit.	23.0	22.1	33.8	153	0.26	0.34	16.3	16.6	0.32	4.13	4.45	272	36,255	36,527	29.1	1.40	202	37,873
% Reduced	5%	5%	—	—	—	—	—	—	—	—	—	55%	< 0.5%	1%	53%	4%	—	3%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.4	18.8	34.2	110	0.24	0.30	16.3	16.6	0.29	4.13	4.42	604	34,566	35,170	62.5	1.48	143	37,316
Mit.	18.2	17.6	34.2	110	0.24	0.30	16.3	16.6	0.29	4.13	4.42	272	34,462	34,734	29.1	1.42	143	36,029
% Reduced	6%	6%	—	—	—	—	—	—	—	—	—	55%	< 0.5%	1%	53%	4%	—	3%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.2	20.4	27.0	111	0.23	0.27	16.2	16.5	0.26	4.11	4.37	604	32,722	33,326	62.4	1.48	168	35,493
Mit.	20.0	19.2	27.0	111	0.23	0.27	16.2	16.5	0.26	4.11	4.37	272	32,618	32,889	29.0	1.42	168	34,206
% Reduced	6%	6%	—	—	—	—	—	—	—	—	—	55%	< 0.5%	1%	53%	4%	—	4%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.87	3.73	4.93	20.2	0.04	0.05	2.96	3.01	0.05	0.75	0.80	100	5,417	5,518	10.3	0.24	27.8	5,876
Mit.	3.65	3.51	4.93	20.2	0.04	0.05	2.96	3.01	0.05	0.75	0.80	45.0	5,400	5,445	4.81	0.23	27.8	5,663

% Reduced	6%	6%	—	—	—	—	—	—	—	—	—	55%	< 0.5%	1%	53%	4%	—	4%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Area	16.7	16.4	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Waste	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Stationary	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	24.2	23.2	33.8	153	0.26	0.34	16.3	16.6	0.32	4.13	4.45	604	36,359	36,963	62.4	1.46	202	39,160
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Area	12.5	12.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Waste	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934

Stationa	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	19.4	18.8	34.2	110	0.24	0.30	16.3	16.6	0.29	4.13	4.42	604	34,566	35,170	62.5	1.48	143	37,316
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.82	5.20	8.39	59.6	0.17	0.14	16.2	16.4	0.13	4.11	4.24	—	17,798	17,798	0.52	0.77	26.1	18,067
Area	14.6	14.4	0.10	11.7	< 0.005	0.02	—	0.02	0.02	—	0.02	—	48.0	48.0	< 0.005	< 0.005	—	48.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Waste	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	0.79	0.79	18.5	39.5	0.05	0.11	—	0.11	0.11	—	0.11	—	5,632	5,632	0.23	0.05	—	5,651
Stationary	0.02	0.02	0.05	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	7.71	7.71	< 0.005	< 0.005	0.00	7.73
Total	21.2	20.4	27.0	111	0.23	0.27	16.2	16.5	0.26	4.11	4.37	604	32,722	33,326	62.4	1.48	168	35,493
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991
Area	2.66	2.63	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,354	1,354	0.08	0.01	—	1,359
Water	—	—	—	—	—	—	—	—	—	—	—	39.9	175	215	4.10	0.10	—	347
Waste	—	—	—	—	—	—	—	—	—	—	—	60.2	0.00	60.2	6.01	0.00	—	211
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Off-Road	0.14	0.14	3.37	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	932	932	0.04	0.01	—	936
Stationary	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28
Total	3.87	3.73	4.93	20.2	0.04	0.05	2.96	3.01	0.05	0.75	0.80	100	5,417	5,518	10.3	0.24	27.8	5,876

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Area	15.5	15.2	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Waste	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Stationary	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	23.0	22.1	33.8	153	0.26	0.34	16.3	16.6	0.32	4.13	4.45	272	36,255	36,527	29.1	1.40	202	37,873
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Area	11.3	11.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Waste	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Stationary	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	18.2	17.6	34.2	110	0.24	0.30	16.3	16.6	0.29	4.13	4.42	272	34,462	34,734	29.1	1.42	143	36,029
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.82	5.20	8.39	59.6	0.17	0.14	16.2	16.4	0.13	4.11	4.24	—	17,798	17,798	0.52	0.77	26.1	18,067

Area	13.4	13.2	0.10	11.7	< 0.005	0.02	—	0.02	0.02	—	0.02	—	48.0	48.0	< 0.005	< 0.005	—	48.1
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	8,180	8,180	0.51	0.06	—	8,211
Water	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Waste	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Off-Road	0.79	0.79	18.5	39.5	0.05	0.11	—	0.11	0.11	—	0.11	—	5,632	5,632	0.23	0.05	—	5,651
Stationary	0.02	0.02	0.05	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	7.71	7.71	< 0.005	< 0.005	0.00	7.73
Total	20.0	19.2	27.0	111	0.23	0.27	16.2	16.5	0.26	4.11	4.37	272	32,618	32,889	29.0	1.42	168	34,206
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991
Area	2.44	2.41	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,354	1,354	0.08	0.01	—	1,359
Water	—	—	—	—	—	—	—	—	—	—	—	36.0	158	194	3.70	0.09	—	312
Waste	—	—	—	—	—	—	—	—	—	—	—	9.03	0.00	9.03	0.90	0.00	—	31.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Off-Road	0.14	0.14	3.37	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	932	932	0.04	0.01	—	936
Stationary	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28
Total	3.65	3.51	4.93	20.2	0.04	0.05	2.96	3.01	0.05	0.75	0.80	45.0	5,400	5,445	4.81	0.23	27.8	5,663

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.80	0.79	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.35	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	250	250	0.01	0.01	0.85	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.25	6.25	< 0.005	< 0.005	0.01	6.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.59	0.57	3.48	28.2	0.05	0.13	—	0.13	0.13	—	0.13	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.10	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.35	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	250	250	0.01	0.01	0.85	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.25	6.25	< 0.005	< 0.005	0.01	6.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.61	2.64	0.01	0.11	—	0.11	0.10	—	0.10	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.48	0.48	< 0.005	0.02	—	0.02	0.02	—	0.02	—	105	105	< 0.005	< 0.005	—	105
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.54	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	286	286	0.01	0.01	0.97	290

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.0	25.0	< 0.005	< 0.005	0.04	25.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.71	5.32	35.2	0.06	0.15	—	0.15	0.15	—	0.15	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.07	0.51	3.38	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	105	105	< 0.005	< 0.005	—	105
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.54	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	286	286	0.01	0.01	0.97	290
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.0	25.0	< 0.005	< 0.005	0.04	25.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	4.09	5.38	0.01	0.16	—	0.16	0.14	—	0.14	—	995	995	0.04	0.01	—	998
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.75	0.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	165	165	0.01	< 0.005	—	165
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.21	1.09	1.00	17.6	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	3,266	3,266	0.13	0.11	11.1	3,314
Vendor	0.12	0.11	2.78	1.17	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,784	2,784	0.01	0.38	7.02	2,905
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	0.97	1.11	11.7	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	2,892	2,892	0.05	0.11	0.29	2,927
Vendor	0.11	0.10	2.94	1.21	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,787	2,787	0.01	0.38	0.18	2,901
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.50	5.49	0.00	0.00	1.23	1.23	0.00	0.29	0.29	—	1,235	1,235	0.02	0.05	1.98	1,252
Vendor	0.05	0.04	1.21	0.50	0.01	0.02	0.32	0.33	0.02	0.09	0.10	—	1,156	1,156	< 0.005	0.16	1.26	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	204	204	< 0.005	0.01	0.33	207
Vendor	0.01	0.01	0.22	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	191	191	< 0.005	0.03	0.21	199
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.78	3.74	14.8	0.02	0.25	—	0.25	0.23	—	0.23	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.78	3.74	14.8	0.02	0.25	—	0.25	0.23	—	0.23	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.32	1.55	6.15	0.01	0.10	—	0.10	0.10	—	0.10	—	995	995	0.04	0.01	—	998
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.28	1.12	< 0.005	0.02	—	0.02	0.02	—	0.02	—	165	165	0.01	< 0.005	—	165
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.21	1.09	1.00	17.6	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	3,266	3,266	0.13	0.11	11.1	3,314
Vendor	0.12	0.11	2.78	1.17	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,784	2,784	0.01	0.38	7.02	2,905
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.09	0.97	1.11	11.7	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	2,892	2,892	0.05	0.11	0.29	2,927
Vendor	0.11	0.10	2.94	1.21	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,787	2,787	0.01	0.38	0.18	2,901
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.45	0.41	0.50	5.49	0.00	0.00	1.23	1.23	0.00	0.29	0.29	—	1,235	1,235	0.02	0.05	1.98	1,252
Vendor	0.05	0.04	1.21	0.50	0.01	0.02	0.32	0.33	0.02	0.09	0.10	—	1,156	1,156	< 0.005	0.16	1.26	1,204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.00	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	204	204	< 0.005	0.01	0.33	207
Vendor	0.01	0.01	0.22	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	191	191	< 0.005	0.03	0.21	199
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.11	7.04	0.01	0.18	—	0.18	0.17	—	0.17	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.93	1.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	216	216	0.01	< 0.005	—	217
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.04	0.90	16.3	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	3,210	3,210	0.04	0.11	9.99	3,253
Vendor	0.12	0.09	2.69	1.12	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,723	2,723	0.01	0.36	6.28	2,837
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.93	1.00	10.9	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	2,843	2,843	0.05	0.11	0.26	2,878
Vendor	0.11	0.08	2.84	1.16	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,726	2,726	0.01	0.36	0.16	2,834
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.51	0.60	6.66	0.00	0.00	1.62	1.62	0.00	0.38	0.38	—	1,592	1,592	0.02	0.06	2.35	1,613
Vendor	0.06	0.04	1.54	0.62	0.01	0.02	0.41	0.43	0.02	0.11	0.14	—	1,482	1,482	< 0.005	0.20	1.47	1,542
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.22	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	264	264	< 0.005	0.01	0.39	267
Vendor	0.01	0.01	0.28	0.11	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	245	245	< 0.005	0.03	0.24	255
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.81	0.78	3.73	14.8	0.02	0.25	—	0.25	0.23	—	0.23	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.81	0.78	3.73	14.8	0.02	0.25	—	0.25	0.23	—	0.23	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.42	2.03	8.06	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.37	1.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	216	216	0.01	< 0.005	—	217
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.15	1.04	0.90	16.3	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	3,210	3,210	0.04	0.11	9.99	3,253
Vendor	0.12	0.09	2.69	1.12	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,723	2,723	0.01	0.36	6.28	2,837
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.93	1.00	10.9	0.00	0.00	2.99	2.99	0.00	0.70	0.70	—	2,843	2,843	0.05	0.11	0.26	2,878
Vendor	0.11	0.08	2.84	1.16	0.02	0.04	0.76	0.80	0.04	0.21	0.25	—	2,726	2,726	0.01	0.36	0.16	2,834
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.51	0.60	6.66	0.00	0.00	1.62	1.62	0.00	0.38	0.38	—	1,592	1,592	0.02	0.06	2.35	1,613
Vendor	0.06	0.04	1.54	0.62	0.01	0.02	0.41	0.43	0.02	0.11	0.14	—	1,482	1,482	< 0.005	0.20	1.47	1,542
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.22	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	264	264	< 0.005	0.01	0.39	267
Vendor	0.01	0.01	0.28	0.11	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	245	245	< 0.005	0.03	0.24	255
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.46	1.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.72	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	187	187	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.04	2.16	0.47	0.01	0.04	0.51	0.54	0.04	0.13	0.17	—	1,828	1,828	< 0.005	0.29	0.09	1,916
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.02	0.08	105

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.6	16.6	< 0.005	< 0.005	0.01	17.4

3.10. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.46	1.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.72	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	187	187	< 0.005	0.01	0.02	189
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.04	2.16	0.47	0.01	0.04	0.51	0.54	0.04	0.13	0.17	—	1,828	1,828	< 0.005	0.29	0.09	1,916
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.12	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	100	100	< 0.005	0.02	0.08	105
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	16.6	16.6	< 0.005	< 0.005	0.01	17.4

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	74.6	74.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	8.17	8.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	1.49	1.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.20	2.19	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	569	569	0.01	0.02	0.05	576
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.1	64.1	< 0.005	< 0.005	0.09	65.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	10.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	74.6	74.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.7
Architectural Coatings	8.17	8.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.42	2.42	< 0.005	< 0.005	—	2.43
Architectural Coatings	1.49	1.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.20	2.19	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	569	569	0.01	0.02	0.05	576
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	64.1	64.1	< 0.005	< 0.005	0.09	65.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.02	10.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	6.35	5.72	7.55	73.6	0.19	0.14	16.3	16.4	0.13	4.13	4.27	—	19,108	19,108	0.51	0.73	60.4	19,400
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Heavy Industry	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.78	5.16	8.17	54.8	0.17	0.14	16.3	16.4	0.13	4.13	4.27	—	17,412	17,412	0.51	0.76	1.57	17,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.06	0.95	1.53	10.9	0.03	0.03	2.96	2.99	0.02	0.75	0.77	—	2,947	2,947	0.09	0.13	4.32	2,991

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7,561	7,561	0.47	0.06	—	7,589
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	619	619	0.04	< 0.005	—	622
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,180	8,180	0.51	0.06	—	8,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7,561	7,561	0.47	0.06	—	7,589
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	619	619	0.04	< 0.005	—	622
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,180	8,180	0.51	0.06	—	8,211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,252	1,252	0.08	0.01	—	1,257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	103	103	0.01	< 0.005	—	103
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,354	1,354	0.08	0.01	—	1,359

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7,561	7,561	0.47	0.06	—	7,589
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	619	619	0.04	< 0.005	—	622
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,180	8,180	0.51	0.06	—	8,211
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	7,561	7,561	0.47	0.06	—	7,589

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	619	619	0.04	< 0.005	—	622
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,180	8,180	0.51	0.06	—	8,211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	1,252	1,252	0.08	0.01	—	1,257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	103	103	0.01	< 0.005	—	103
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,354	1,354	0.08	0.01	—	1,359

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	11.7	11.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.82	0.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.21	3.88	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6
Total	16.7	16.4	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	11.7	11.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.82	0.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	12.5	12.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.13	2.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.15	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.35	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97
Total	2.66	2.63	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	4.21	3.88	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6
Total	15.5	15.2	0.20	23.7	< 0.005	0.04	—	0.04	0.03	—	0.03	—	97.3	97.3	< 0.005	< 0.005	—	97.6

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	10.8	10.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	11.3	11.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.97	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.38	0.35	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97
Total	2.44	2.41	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.94	7.94	< 0.005	< 0.005	—	7.97

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	241	1,056	1,297	24.8	0.60	—	2,093
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	39.9	175	215	4.10	0.10	—	347
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	39.9	175	215	4.10	0.10	—	347

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	217	952	1,169	22.3	0.54	—	1,887
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	36.0	158	194	3.70	0.09	—	312
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	36.0	158	194	3.70	0.09	—	312

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	363	0.00	363	36.3	0.00	—	1,272
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	60.2	0.00	60.2	6.01	0.00	—	211
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.2	0.00	60.2	6.01	0.00	—	211

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.5	0.00	54.5	5.45	0.00	—	191
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	9.03	0.00	9.03	0.90	0.00	—	31.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	9.03	0.00	9.03	0.90	0.00	—	31.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	142	142
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.4	23.4

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.78	0.78	17.7	40.3	0.05	0.11	—	0.11	0.11	—	0.11	—	5,735	5,735	0.23	0.05	—	5,755
Other Material Handling Equipment	0.06	0.06	0.31	4.44	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Skid Steer Loaders	0.26	0.26	7.97	10.8	0.01	0.03	—	0.03	0.03	—	0.03	—	1,539	1,539	0.06	0.01	—	1,544
Total	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.78	0.78	17.7	40.3	0.05	0.11	—	0.11	0.11	—	0.11	—	5,735	5,735	0.23	0.05	—	5,755
Other Material Handling Equipment	0.06	0.06	0.31	4.44	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Skid Steer Loaders	0.26	0.26	7.97	10.8	0.01	0.03	—	0.03	0.03	—	0.03	—	1,539	1,539	0.06	0.01	—	1,544
Total	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.10	0.10	2.30	5.24	0.01	0.01	—	0.01	0.01	—	0.01	—	676	676	0.03	0.01	—	679
Other Material Handling Equipment	0.01	0.01	0.04	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.6	74.6	< 0.005	< 0.005	—	74.9

Skid Steer Loaders	0.03	0.03	1.04	1.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	181	181	0.01	< 0.005	—	182
Total	0.14	0.14	3.37	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	932	932	0.04	0.01	—	936

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.78	0.78	17.7	40.3	0.05	0.11	—	0.11	0.11	—	0.11	—	5,735	5,735	0.23	0.05	—	5,755
Other Material Handling Equipment	0.06	0.06	0.31	4.44	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Skid Steer Loaders	0.26	0.26	7.97	10.8	0.01	0.03	—	0.03	0.03	—	0.03	—	1,539	1,539	0.06	0.01	—	1,544
Total	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forklifts	0.78	0.78	17.7	40.3	0.05	0.11	—	0.11	0.11	—	0.11	—	5,735	5,735	0.23	0.05	—	5,755
Other Material Handling Equipment	0.06	0.06	0.31	4.44	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Skid Steer Loaders	0.26	0.26	7.97	10.8	0.01	0.03	—	0.03	0.03	—	0.03	—	1,539	1,539	0.06	0.01	—	1,544
Total	1.11	1.11	26.0	55.5	0.07	0.15	—	0.15	0.15	—	0.15	—	7,907	7,907	0.32	0.06	—	7,934
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Forklifts	0.10	0.10	2.30	5.24	0.01	0.01	—	0.01	0.01	—	0.01	—	676	676	0.03	0.01	—	679
Other Material Handling Equipment	0.01	0.01	0.04	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	74.6	74.6	< 0.005	< 0.005	—	74.9
Skid Steer Loaders	0.03	0.03	1.04	1.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	181	181	0.01	< 0.005	—	182
Total	0.14	0.14	3.37	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	932	932	0.04	0.01	—	936

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Total	0.02	0.02	0.07	0.08	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.2	11.2	< 0.005	< 0.005	0.00	11.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.28	1.28	< 0.005	< 0.005	0.00	1.28

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	4/1/2026	4/14/2026	5.00	10.0	—
Grading	Grading	4/15/2026	6/2/2026	5.00	35.0	—
Building Construction	Building Construction	6/3/2026	10/5/2027	5.00	350	—
Paving	Paving	10/06/2027	11/2/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	11/3/2027	12/28/2027	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48

Grading	Tractors/Loaders/Back	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 1	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	228	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	89.1	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	28.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	45.7	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	228	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	89.1	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	0.00	10.2	HHDT,MHDT
Paving	Hauling	28.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	45.7	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	189,876	126,584	485,201

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	0.00	105	0.00	—
Paving	0.00	0.00	0.00	0.00	11.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%
Parking Lot	11.1	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Heavy Industry	995	995	995	363,298	23,114	23,114	23,114	8,436,487
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Heavy Industry	995	995	995	363,298	23,114	23,114	23,114	8,436,487
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	189,876	126,584	485,201

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Heavy Industry	5,187,567	532	0.0330	0.0040	0.00
Parking Lot	425,035	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Heavy Industry	5,187,567	532	0.0330	0.0040	0.00
Parking Lot	425,035	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Heavy Industry	125,776,875	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Heavy Industry	113,387,853	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Heavy Industry	674	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Heavy Industry	101	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	Diesel	Tier 4 Final	16.0	16.0	53.0	0.20

Forklifts	Diesel	Tier 4 Final	8.00	16.0	87.0	0.20
Other Material Handling Equipment	Diesel	Tier 4 Final	1.00	8.00	170	0.40
Skid Steer Loaders	Diesel	Tier 4 Final	3.00	16.0	66.0	0.37
Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	50.0	0.37

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Forklifts	Diesel	Tier 4 Final	16.0	16.0	53.0	0.20
Forklifts	Diesel	Tier 4 Final	8.00	16.0	87.0	0.20
Other Material Handling Equipment	Diesel	Tier 4 Final	1.00	8.00	170	0.40
Skid Steer Loaders	Diesel	Tier 4 Final	3.00	16.0	66.0	0.37
Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	50.0	0.37

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.20	50.0	67.0	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.6	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.04	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	3	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	2	1
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	2	1	2	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

6.4.1. Temperature and Extreme Heat

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	2.00	2.00
EH-1: Install Green Infrastructure	Energy and Fuel Savings, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Social Equity	1.00	1.00	—

EH-3: Install Heat-Reducing Roof	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	2.00	—	—
EH-4: Enhance Building Envelope Efficiency	Energy and Fuel Savings, Improved Air Quality, Improved Public Health, Social Equity	—	—	2.00
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	2.00	—

6.4.2. Drought

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-1: Install Water Efficient Appliances	Social Equity, Water Conservation	—	—	2.00
D-3: Install Drought Resistant Landscaping	Water Conservation	—	2.00	2.00
EH-1: Install Green Infrastructure	Energy and Fuel Savings, Improved Air Quality, Improved Ecosystem Health, Improved Public Health, Social Equity	1.00	1.00	—
MH-23: Landscape with Climate Considerations	Improved Ecosystem Health, Water Conservation	—	2.00	—

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	82.7
AQ-PM	6.66
AQ-DPM	4.93
Drinking Water	78.5

Lead Risk Housing	26.1
Pesticides	29.6
Toxic Releases	8.06
Traffic	8.85
Effect Indicators	—
CleanUp Sites	90.1
Groundwater	82.8
Haz Waste Facilities/Generators	95.0
Impaired Water Bodies	0.00
Solid Waste	84.9
Sensitive Population	—
Asthma	78.8
Cardio-vascular	75.6
Low Birth Weights	56.4
Socioeconomic Factor Indicators	—
Education	43.4
Housing	27.2
Linguistic	2.81
Poverty	45.5
Unemployment	49.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	53.2144232
Employed	9.919158219
Median HI	58.10342615

Education	—
Bachelor's or higher	42.08905428
High school enrollment	5.042987296
Preschool enrollment	56.08879764
Transportation	—
Auto Access	78.96830489
Active commuting	1.039394328
Social	—
2-parent households	78.08289491
Voting	77.55678173
Neighborhood	—
Alcohol availability	81.26523803
Park access	14.731169
Retail density	1.206210702
Supermarket access	20.5825741
Tree canopy	8.725779546
Housing	—
Homeownership	69.22879507
Housing habitability	84.72988579
Low-inc homeowner severe housing cost burden	63.63403054
Low-inc renter severe housing cost burden	81.17541383
Uncrowded housing	60.05389452
Health Outcomes	—
Insured adults	72.56512255
Arthritis	0.0
Asthma ER Admissions	32.4
High Blood Pressure	0.0
Cancer (excluding skin)	0.0

Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	14.0
Cognitively Disabled	18.3
Physically Disabled	22.7
Heart Attack ER Admissions	4.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	68.4
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	25.4
Elderly	16.5
English Speaking	76.5
Foreign-born	5.1
Outdoor Workers	19.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	89.5

Traffic Density	9.3
Traffic Access	23.0
Other Indices	—
Hardship	58.2
Other Decision Support	—
2016 Voting	78.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	57.0
Healthy Places Index Score for Project Location (b)	41.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
CCD-1: Consult Pre-existing Community Knowledge/Priorities	Social Equity
IE-2: Establish or Join a Community Project Steering Committee	Social Equity
CE-2: Ensure Active Modes Access During Construction	Energy and Fuel Savings, Enhanced Pedestrian or Traffic Safety, Improved Public Health, Social Equity, VMT Reductions
IEP-4: Use of Locally/Regionally Manufactured Products and Materials	Social Equity

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition
Construction: Architectural Coatings	Areas as calculated
Operations: Vehicle Data	Trip rates per traffic study
Operations: Architectural Coatings	Areas as calculated
Operations: Energy Use	No natural gas use anticipated.
Operations: Off-Road Equipment	Proposed Operational Equipment
Construction: Trips and VMT	trips added for paving

APPENDIX B:
Biological Reconnaissance and Habitat Assessment Report

DRAFT

Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC
Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California



TETRA TECH

301 E. Vanderbilt Way, Suite 450
San Bernardino, California 92408

TC# 117-367023-24003 Task 01
April 2025, Revised August 2025

TABLE OF CONTENTS

Section 1 Project Location and Setting 1-1

Section 2 Regulatory Setting 2-1

2.1 Protected Biological Resources 2-1

2.1.1 Federal-Sensitive Biological Resources 2-1

2.1.2 State of California-Sensitive Biological Resources 2-2

2.1.3 Natural Community Conservation Planning 2-4

2.1.4 San Bernardino County Regulations 2-4

Section 3 Methodology 3-1

3.1 Sensitive Resources Database Reviews 3-1

Section 4 Results 4-1

4.1 Results of Sensitive Resources Database Reviews 4-1

4.2 Soils 4-2

4.3 Habitat 4-4

4.4 Wildlife 4-8

Section 5 Recommendations 5-1

Section 6 References 6-1

LIST OF FIGURES

Figure 1 Regional Location 1-2

Figure 2 Photograph Locations 4-3

Figure 3 Habitat Type 4-7

APPENDICES

Appendix A Sensitive Biological Resources Database Reviews

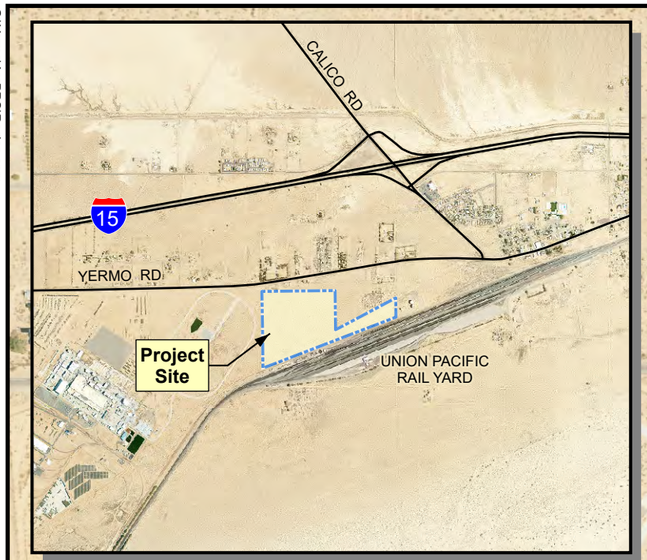
Appendix B Flora and Fauna Compendium

Appendix C Photograph Log

SECTION 1 PROJECT LOCATION AND SETTING

Tetra Tech was contracted to conduct a biological reconnaissance and habitat assessment of four contiguous parcels identified as Assessor Parcel Numbers (APNs) 0537-071-15, -16, -17 and -19 herein identified as the study area (Figure 1). The study area is located at 37265 Yermo Road in the community of Yermo, San Bernardino County, California. The study area is associated with four (4) existing parcels (APNs 0537-071-15, -16, -17 and -19). These existing parcels are being reconfigured and a new parcel of approximately 77.57 acres (5.47 acres in existing right-of-way easements and 72.10 acres of developable lot) will be created following purchase of the land by Freepoint Eco-Systems Yermo Supply, LLC and prior to finalization of the Conditional Use Permit (CUP) to be issued by San Bernardino County. This 72.10 acre study area is undeveloped desert scrub habitat. The study area is located in Township 09N, Range 01E, Section 02 of the Yermo U.S. Geological Survey quadrangle (U.S. Geological Survey 2021).

G:\Yermo\ArcPRO\Region.aprx



YERMO ROAD

JELLICO STREET

APN 0537-071-15

APN 0537-071-17

MARINE ROAD

APN 0537-071-19

DUSTY TRAIL

APN 0537-071-16

Aerial Photo: NAIP 2022.

0 250 500 Feet

Assessor Parcel Boundary

Site Boundary

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 1

Regional Location

TETRA TECH

SECTION 2 REGULATORY SETTING

2.1 PROTECTED BIOLOGICAL RESOURCES

2.1.1 Federal-Sensitive Biological Resources

Federal Regulatory Status. The Federal Endangered Species Act (FESA) of 1973 describes two categories for declining species as Endangered and Threatened. The United States Fish and Wildlife Service (USFWS) is the government agency that enforces FESA. "Endangered" describes any species that is in danger of extinction throughout all or a significant portion of its range. "Threatened" is assigned to any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range. "Candidate" describes species that have been studied and the USFWS has concluded that they should be proposed for addition to the Federal Endangered and Threatened species list.

Designated Critical Habitat. The USFWS has designated critical habitat within San Bernardino County for 19 listed species under the FESA. Critical habitat is designated when a geographical area is considered crucial to the survival of a Threatened or Endangered species. Once critical habitat is designated, to ensure that their actions will not destroy or adversely modify the constituent elements of critical habitat for that species, federal agencies must consult USFWS on activities they plan to undertake, fund, or authorize. Special limitations on projects in critical habitat are limited to federal actions; however, the general protections of the FESA protect listed species from take regardless of where they are located.

Migratory Bird Treaty Act (MBTA). The MBTA implements international treaties between the United States and other nations that protect migratory birds (including their parts, eggs, and nests) from being killed, hunted, pursued, captured, sold, and shipped unless expressly authorized or permitted.

Bald and Golden Eagle Protection Act (BGEPA). The BGEPA (16 U.S.C. 668 et seq.), enacted in 1940 and amended several times since then, prohibits anyone without a permit issued by the Secretary of the Interior from "taking" bald eagles (*Haliaeetus leucocephalus*), including their parts, nests, or eggs. BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any

bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." On September 11, 2009, the USFWS set in place rules (50 CFR Parts 13 and 22) establishing two new permit types: (1) take of bald eagles and golden eagles (*Aquila chrysaetos*) that is associated with, but is not the purpose of, the activity; and (2) purposeful take of eagle nests that pose a threat to human or eagle safety.

2.1.2 State of California-Sensitive Biological Resources

California Regulatory Status. The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a Threatened or Endangered designation, will be protected or preserved.

Endangered and Threatened Species. Under CESA, the term "Endangered species" is defined as a species of plant, fish, or wildlife which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. "Threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts.

Candidate Species/Western Joshua Trees (Yucca brevifolia). On September 22, 2020, the California Fish and Game Commission (Commission) listed the western Joshua tree (Joshua tree) as a Candidate, which protects the species under CESA. In addition, the Western Joshua Tree Conservation Act (WJTCA) was enacted in 2023 and prohibits importation, export, take, possession, purchase, or sale of any Joshua tree in California unless authorized by the California Department of Fish and Wildlife (CDFW) (California Code of Regulations 2023). From the WJTCA, "…The act authorizes CDFW to issue permits for the incidental take of one or more western Joshua trees if the permittee meets certain conditions." Permittees may pay specified fees in lieu of conducting mitigation activities. The act also authorizes CDFW to issue permits for the removal of dead western Joshua trees and the trimming of live Joshua trees under certain circumstances. Pursuant to the WJTCA, CDFW may enter into an agreement with any county or city to delegate limited authority to permit the taking of a Joshua tree associated with developing single-family residences,

multifamily residences, accessory structures, and public works projects. CDFW may similarly enter into an agreement with any county or city to delegate limited authority to permit the removal of dead Joshua trees and the trimming of live Joshua trees. (California Department of Fish and Wildlife 2024b).

***Candidate Species/Western Burrowing Owl* (*Athene cunicularia hypugaea*)**. On October 9, 2024, the Commission listed western burrowing owl as a Candidate for Threatened or Endangered species status under CESA. The Commission will undertake a one-year review of the species' status before a final decision on listing. During the interim, the owl will be considered fully listed as a Threatened species.

Fully Protected Species. The classification of Fully Protected was California's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction prior to implementation of CESA. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern. Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria as defined by the CDFW:

- Is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- Is listed as Federally-, but not State-, Threatened or Endangered;
- Meets the State definition of Threatened or Endangered but has not formally been listed;
- Is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State Threatened or Endangered status; and/or
- Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that if realized, could lead to declines that would qualify it for State Threatened or Endangered status.

Sensitive Plants Identified by the California Native Plant Society (CNPS). The following provides a general definition of the CNPS listings.

- List 1A: Plants believed to be extinct;
- List 1B: Plants that are rare, Threatened, or Endangered in California and elsewhere;
- List 2: Plants that are rare, Threatened, or Endangered in California, but are more numerous elsewhere;
- List 3: Plants about which we need more information (a review list); and
- List 4: Plants of limited distribution (a watch list), as defined by CNPS.

2.1.3 Natural Community Conservation Planning

The Natural Community Conservation Planning Act (1991) provides the statutory framework for the creation of Natural Community Conservation Plans (NCCPs), which provide long-term, landscape-scale protection for natural vegetation communities and wildlife diversity while allowing for continued permissible use and expansion of compatible land uses. The NCCP program supports collaborative planning and approval by involving local governments, state and federal agencies, environmental organizations, landowners, and members of the public. The NCCP framework is meant to support the provision of regional and subregional protection for species that inhabit designated natural communities.

2.1.4 San Bernardino County Regulations

San Bernardino County Plant Protection and Management Code. Chapter 88.01 of the San Bernardino County Development Code provides regulatory and management guidance for plant resources within unincorporated areas of San Bernardino County, as well as within mixed public and private lands within the County. The goal is to promote both healthy plant community growth and the preservation of native species. In turn, the standardization of these practices helps with the conservation of natural waterways within the County and provide sustainable habitat for many local plant and wildlife species. This code primarily pertains to the removal of native trees and vegetation on public and private lands located within unincorporated areas of the County.

Chapter 88.01.060 of the San Bernardino County Development Code is a subset of the Plant Protection and Management Code that is focused on the conservation of specified desert plant species. The following desert native plants or any part of them with stems two-inches or greater in diameter or six feet or greater in height, except the fruit, shall not be removed except under a Tree or Plant Removal Permit in compliance with § 88.01.050 (Tree or Plant Removal Permits):

- Smoke tree (*Psorothamnus spinosa*).
- All species of the genus *Prosopis* (mesquites).
- All species of the family Agavaceae (century plants, nolinas, yuccas).
- Creosote (*Larrea tridentata*) rings, ten feet or greater in diameter.
- All Joshua trees.
- Any part of any of the following species, whether living or dead:
    - Desert ironwood (*Olneya tesota).*
    - All species of the genus *Prosopis* (mesquites).
    - All species of the genus *Cercidium* (palo verde).

SECTION 3 METHODOLOGY

3.1 SENSITIVE RESOURCES DATABASE REVIEWS

Prior to mobilizing to the field, the available literature on natural resources with reference to plants and wildlife in and near the study area was consulted including information from the CDFW California Natural Diversity Data Base (CNDDB) (California Department of Fish and Wildlife 2025) and the California Native Plant Society (CNPS) (California Native Plant Society 2024). In addition, the Information for Planning and Consultation (IPaC) database of federally-listed species and habitat that is maintained by the United States Fish and Wildlife Service for the study area was accessed in August 2025 (United States Fish and Wildlife Service 2025). The National Wetland Inventory (NWI) Mapper on-line access tool was used to map aquatic resources within the study area (United States Fish and Wildlife Service 2024).

The search radius used in the CNDDB and CNPS search for past observations of sensitive biological resources included the Yermo 7.5-minute quadrangle plus the adjacent Lane Mountain, Coyote Lake, Alvord Mountain West, Nebo, Harvard Hill, Daggett, Minneola and Newberry Springs 7.5-minute quadrangles. No sensitive natural communities were identified in the CNDDB search radius that includes the study area. The IPaC database results included desert tortoise (*Gopherus agassizii*) and western pond turtle (*Emys marmorata*), both of which had been identified in the CNDDB. Monarch butterfly (*Danaus plexippus*), a Federal Candidate species, was also identified in the IPaC within the search radius. The project study area has no habitat to include roosting trees likely to support this insect. No host milkweed plants (*Asclepias* sp.) were observed within the study area. Finally, the IPaC database identified one migratory bird of concern, Costa's hummingbird (*Calypte costae)*. Sensitive biological resources identified from the databases and literature reviewed for this survey that have the potential for presence in the survey area are found in Appendix A. The following criteria have been applied to those previously recorded sensitive biological resources or those resources determined potentially present at the study area due to habitat requirements from either the databases reviewed or the results of the reconnaissance survey:

- *Present:* Species was observed in or immediately adjacent to the study area within the past 5 years.

- *High:* Habitat (including vegetation, soils and elevation factors) and known historical range for the species occurs in the study area and a known occurrence has been recorded within 5 miles and within the past 30 years.
- *Moderate:* Habitat for the species occurs in the study area and a known occurrence has been recorded between 5 and 10 miles away within the past 30 years; or historical range for the species occurs in the site and a known occurrence has been recorded within 5 miles and within the past 30 years with only two of three habitat parameters present (appropriate vegetation, soils and elevation).
- *Low:* Limited habitat for the species occurs in the study area and known occurrences are greater than 10 miles from the study area or over 30 years old; or habitat quality is poor with only one parameter present (appropriate vegetation, soils and elevation).
- *Absent:* Beyond those factors listed for Low potential, the species is easily identifiable throughout the year and was not observed (i.e., most tree species).

The habitat assessment of the project study area was conducted to record general ecological characteristics of the study area and to determine suitability of the habitat for the presence of sensitive biological resources. General guidelines published by the California Department of Fish and Game (CDFG) for conducting habitat assessments for burrowing owl (*Athene cunicularia*) were followed (CDFG, 2012). Consistent with these standards, transects of the study area were systematically walked generally from north to south with separation between surveyors of approximately 20 to 30 meters (65 to 98 feet) to accommodate topographic features and plants. Periodic stops were made to listen for bird calls/songs. Binoculars were used to review areas immediately adjacent to the project with no access for potential resources located immediately beyond the study area. Observations of plants and wildlife observed during the survey were recorded.

SECTION 4 RESULTS

A biological reconnaissance and habitat assessment of the study area was conducted and concluded on June 1, 2024. No rain had occurred within five days of the reconnaissance survey. Weather conditions at the start and conclusion of the survey are summarized in the table below.

	Time	Temperature (F°)	Cloud Cover (percent)	Wind Speed (miles per hour)
Start of the Reconnaissance Survey (06/01/24)	0620	73	Clear	6
Conclusion of the Reconnaissance Survey (06/01/24)	1030	90	Clear	10

The study area was accessed on foot and with a vehicle using existing dirt roads. Transects were walked within the study area except for the area associated with the residential development located in the northwestern corner of the study area. Plants and any wildlife observed in the study area were recorded and are found as Appendix B. Photographs of the study area were taken at various locations within and adjacent to the study area (Figure 2). The photograph log can be found as Appendix C.

4.1 RESULTS OF SENSITIVE RESOURCES DATABASE REVIEWS

Based on current conditions and observations made of the study area during the reconnaissance survey, sensitive biological resources previously recorded in the search radius are absent or have a low potential to occur with the study area (Appendix B). For sensitive plants determined to have a low potential to be present due to habitat preference, plant-specific blooming periods would have allowed the plants to be detected at the time of the survey if present. For previously observed wildlife resources determined to have a low potential to be present within the study area, surrounding land uses preclude the presence of sensitive biological resources identified in the databases identified in Section 3.1.

Adjacent land uses are summarized as follows.

- North: Vacant land with rural residential dwellings and local infrastructure (Yermo Road) beyond.

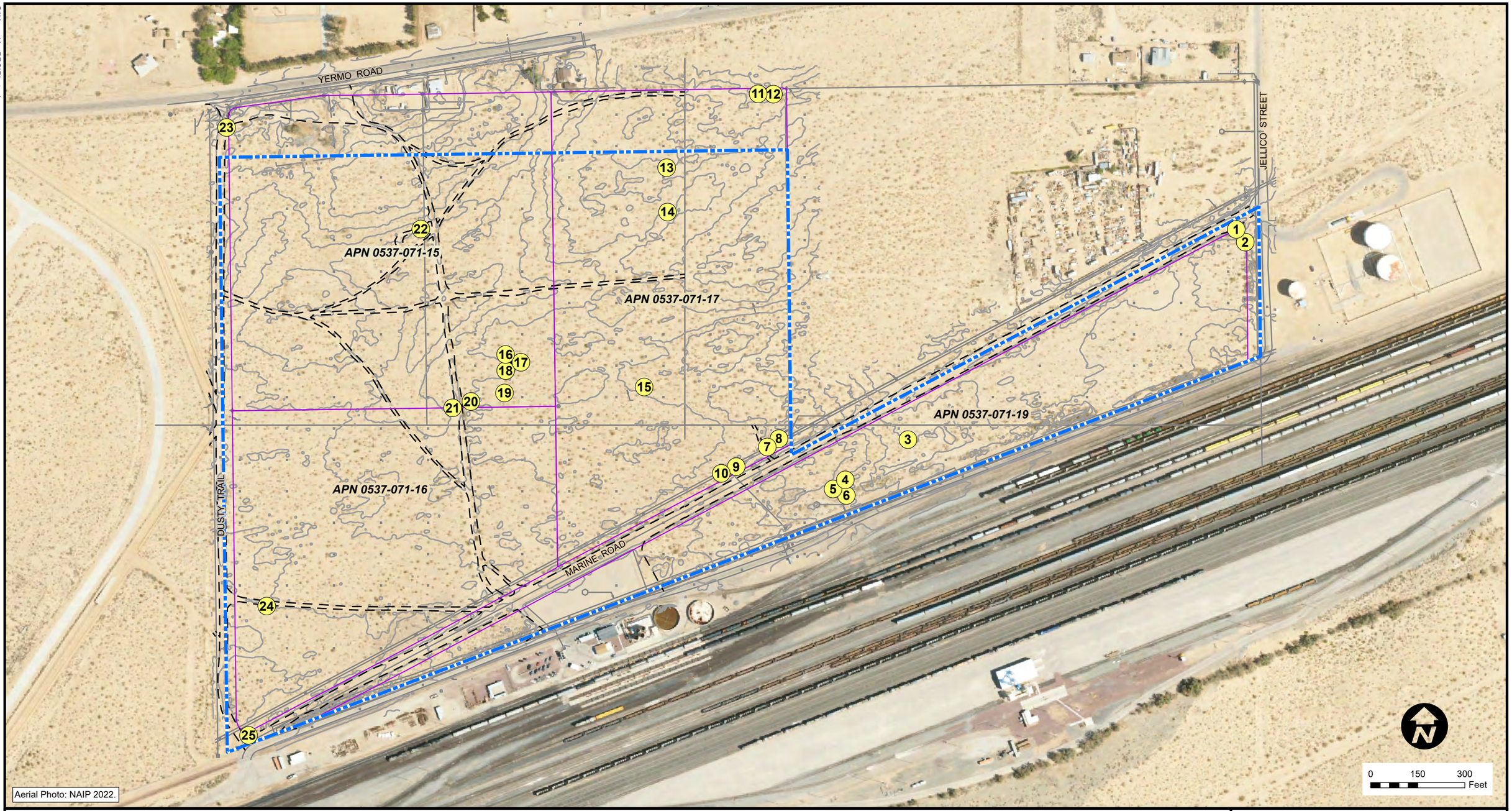
- East: Vacant land.
- South: A Union Pacific railroad switching yard.
- West: Marine Corps Logistic Base Barstow – Yermo Annex.

Loose dogs were observed during the survey in part of the study area.

4.2 SOILS

Soils. The Cajon sand, 2 to 9 percent slopes series has been mapped as the dominate soil type within the study area (United States Department of Agriculture 2024). The field reconnaissance confirmed mapping conducted by the United States Department of Agriculture. The soils within the study area were noted as having a fine sandy texture. The Cajon sand are soils associated with alluvial fans and have been classified as being associated with Farmland of Statewide Importance. A review of lands classified as farmlands in the Yermo region of San Bernardino county confirmed that the study area has been classified as Other Lands or land that is not included in other mapping categories and not a Farmland of Statewide Importance (California Department of Conservation 2020). In addition, based on the soil present, the study area has not been classified as Prime Farmland, Unique Farmland or Grazing Land (California Department of Conservation 2020).

G:\Yermo\ArcPRO\Photo_Locs.aprx



1 Photo Location

Site Boundary

Assessor Parcel Boundary

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 2

Photograph Locations

TETRA TECH

4.3 HABITAT

Vegetation. The vegetation community within the majority of the 77.57-acre study area is creosote bush-white bursage (*Ambrosia dumosa*)-four-wing salt bush (*Atriplex canescens*) alliance, which makes up 73.54 acres of the study area, with an additional 1.04 acres of disturbed-unvegetated area and 2.99 acres of unvegetated dirt road (California Department of Fish and Wildlife 2024a) (Figure 3). While the survey was conducted at a time of the year when annuals would not typically be present, distinctive vestiges of some of the annuals that bloomed in the spring were still visible and recognizable. A compendium of plants observed during the survey are found as Appendix B. No sensitive plants were observed during the reconnaissance survey of the study area. No western Joshua tree plants are present within the study area.

Special status plants are species of conservation concern due to their rarity, limited distribution, and declining populations. Six special status plant species have been identified in the CNDDB and CNPS databases as having a low potential to occur within the study area and are not expected to be present.

Two of the special status plant species with potential to occur within the study area are identified by the CNPS as 1B.2 plants (plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California):

- Clokey's cryptantha (*Cryptantha clokeyi*). This plant has been observed more than 15 miles north of the study area within granitic gravelly soils associated with the Calico Peaks within the Rainbow Basin Natural Area. Blooming period is April. Because the study area is dominated by sandy soils with no granitic gravelly based soils, this species is not expected to be present at the study area.
- Beaver Dam breadroot (*Pediomelum castoreum*) is found in sandy soils, washes and roadcuts. The closest identified location to Yermo was last observed in 1943, approximately two and a half miles south of the study area. While the reconnaissance survey was completed just outside its blooming period of April through May, no remnants of this perennial herbaceous plant were observed during the study area reconnaissance. This species is not expected to be present at the study area.

One special status plant species was identified by the CNPS as a 2B plant (plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California):

- 2B.2 Jackass-clover (*Wislizenia refracta* ssp. *refracta*) was most recently observed in 2004 approximately nine miles to the northeast of the study area in Coyote Dry Lake. The reconnaissance survey was completed during this plant's blooming period of April through November and was not observed at the study area. This species is not expected to be present at the study area.

The following three special status plant species were identified by the CNPS as 4.2 plants (plants with limited distribution or infrequent throughout a broader area in California; moderately threatened in California):

- Mojave spineflower (*Chorizanthe spinosa*) was noted in the CNPS database. The reconnaissance survey was completed during this plant's blooming period of March through July and was not observed during the study area reconnaissance. This species is not expected to be present at the study area.
- Death Valley sandmat (*Euphorbia vallis-mortae*) was noted in the CNPS database. The reconnaissance survey was completed during this plant's blooming period of May through October and was not observed during the study area reconnaissance. This species is not expected to be present at the study area.
- Utah vine milkweed (*Funastrum utahense*) was noted in the CNPS database. The reconnaissance survey was completed during this plant's blooming period of April through June and was not observed during the study area reconnaissance. This species is not expected to be present at the study area.

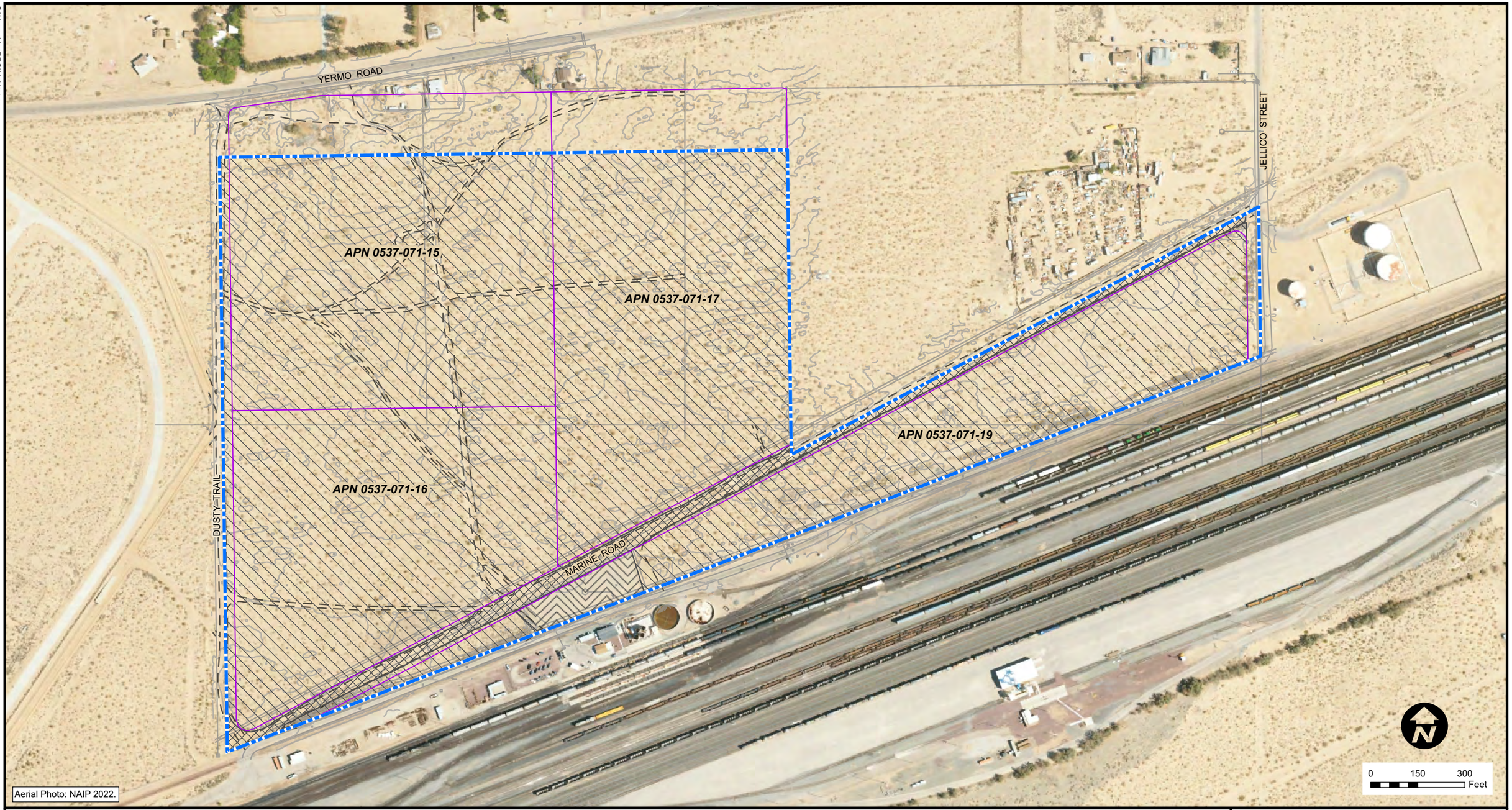
Designated Critical Habitat. Superior-Cronese Desert Wildlife Management Areas (DWMAs) is a 2,136 square kilometer recovery unit for the federally listed as Threatened desert tortoise (*Gopherus agassizii*). A portion of the DWMA is located 0.75 miles to the northeast of the Study Area (United States Fish and Wildlife 2024). The study area is not located within or adjacent to Designated Critical Habitat.

Riparian/Wetland Habitat. The objective of the NWI is to produce reconnaissance level information about the location, area, and type of the riparian/wetlands in a given location. Wetlands are ecosystems that were flooded, or saturated conditions that have created habitats with aquatic and semi-aquatic plants. Riparian habitat is typically located on banks of rivers and may be composed of plants and trees suited for areas that are transitions between wetland and upland habitats. No mapped riparian or wetlands waters have been recorded by the NWI for the study area (United States Fish and Wildlife Service 2024). No riparian or wetlands were observed during the reconnaissance survey within the study area. No streambed features or features with bed and bank that may convey storm flow were noted within the study area.

Natural Community Conservation Plan. The study area and adjacent areas to the study area are not part of an NCCP. The town of Apple Valley MSHCP is the only NCCP currently being planned in San Bernardino County. Apple Valley is located more than 30 miles to the southwest from the study area.

San Bernardino County Plant Protection and Management Code. No plants are present within the study area that would require a Tree or Plant Removal Permit from San Bernardino County. There is one non-native Chilean mesquite (*Prosopis chilensis*) located in the western portion of the study area. As this plant is a non-native landscaping plant, no permit for removing it during site preparation is anticipated.

G:\Yermo\ArcPRO\Habitat.aprx



Aerial Photo: NAIP 2022.

- Site Boundary
- Assessor Parcel Boundary
- Creosote bush *(Larrea tridentata)*-White bursage *(Ambrosia dumosa)*-Four-wing salt bush *(Atriplex canescens)* Shrub Alliance
- Disturbed-Unvegetated
- Unvegetated Dirt Road

FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC
PLASTICS SORTING AND PROCESSING FACILITY, YERMO, CA

Figure 3

Habitat Type

TETRA TECH

4.4 WILDLIFE

A compendium of wildlife observed during the survey is found in Appendix B. No sensitive wildlife species were observed during the habitat assessment. While the study area was observed to have suitable habitat for occupation by burrowing owl, no burrows large enough such as those created by California ground squirrel (*Otospermophilus californicus*) were observed. Where present, abandoned burrows created by California ground squirrels can be used by burrowing owl. In addition, loose dogs from adjacent residences would preclude occupation of the study area by burrowing owl. The study area has limited habitat for roosting and arboreal nesting birds such as Le Conte's thrasher (*Toxostoma lecontei*) and limited habitat for roosting bats such as Townsend's big-eared bat (*Corynorhinus townsendii*). The IPaC database identified that Costa's hummingbird may migrate through the study area. It is possible that this bird may temporarily stop at the study area during migration, but it is unlikely that the study area would have suitable habitat for nesting by this bird.

While there is suitable habitat present at the study area for desert tortoise (*Gopherus agassizii*), there are no CNDDB records of this species within five miles of the study area. As stated earlier, the southwestern edge of the Superior-Cronese DWMA is located within one mile to the northeast of the study area. The study area is developed on all sides including a rail switching yard and active rail line, Marine Corps Logistic Base Barstow – Yermo Annex, and nearby Yermo Road and rural residential developments. Lands to the north and east of the study area have been developed in the past and are now vacant. No desert tortoise or sign of desert tortoise (scat, carcasses, burrows) were observed during the survey. Based on this, the presence of desert tortoise at the study area is unlikely.

SECTION 5 RECOMMENDATIONS

The following recommendations are provided for project-related work that would directly or indirectly impact the study area.

- It is recommended that within 30 days and again within 72 hours of ground-disturbing activities, a nesting bird survey should be conducted by a qualified biologist to determine if burrowing owl or other nesting birds are present if work is proposed during the nesting season (typically March 1 through August 31 for passerine (songbirds) and January 1 through September 15 for raptors). If present, buffer zones based on the sensitivity of the nesting bird should be established to avoid direct and indirect impacts. The buffer zone for nesting passerine (songbirds) and/or raptor birds may be species-specific based on available information including a relevant literature review and avian biology. The buffer zone may also depend on the level of project-related disturbance.
- Prior to ground disturbance, a focused survey for desert tortoise at the study area should be conducted. For a desert tortoise survey, use 10-meter/32-feet-wide transects with 100 percent coverage of the study area during active tortoise periods (April through May, September through October) to find tortoises and their sign (United States Fish and Wildlife Service 2019). Depending on project schedule, the focused survey for desert tortoise could be timed to coincide with the nesting bird survey.
- It is recommended that a preconstruction survey of the study area for burrowing owls should be completed within 30 days before ground-disturbing activities to prevent direct harm to the owls. This survey could coincide with the recommended nesting bird survey. If burrowing owls are observed within the study area, no work can occur within buffer areas detailed in the 2012 guidelines (California Department of Fish Game 2012) and CDFW must be contacted to develop a mitigation plan.

SECTION 6 REFERENCES

Baldwin, B.G., D. H. Goldman, D. J. Keil, R, Patterson, T. J. Rosatti, and D.H. Wilkin, editors.
2012 *The Jepson manual: Vascular plants of California, second edition.* University of California Press

California Department of Conservation
2020 San Bernardino County Important Farmland 2020, Sheet 1 of 2. Division of Land Resources Protection, Farmland Mapping and Monitoring Program

California Department of Fish and Game
2012 Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, March 7, 2012

California Department of Fish and Wildlife
2024a California Natural Community List. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities. Accessed May 28, 2024

2024b Western Joshua Tree Conservation Act. https://wildlife.ca.gov/Conservation/Environmental-Review/WJT/WJTCA. Accessed on May 7, 2024

2025 Rarefind 5. Natural Heritage Division. Natural Diversity Database accessed August 25, 2025

California Native Plant Society
2024 California Native Plant Society, Rare Plant Program, Rare Plant Inventory, (online edition v9.5) (http://www.rareplants.cnps.org, accessed on June 4, 2024)

Sibley, D.A.
2003 The *Sibley Field Guide to Birds of Western North America*. Andrew Stewart Publishing.

United States Department of Agriculture
2024 Custom Soil Resources Report for San Bernardino County, California Mojave River Area, California. https://websoilsurvey.nrcs.usda.gov/app/

United States Fish and Wildlife Service
2019 Preparation for Any Action that May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*), October 26, 2018.
2024 National Wetlands Inventory Mapper. National Wetlands Inventory (usgs.gov). accessed July 17, 2024
2025 Information for Planning and Consultation (IPaC). Website https://www.fws.gov/ipac/index.html. Accessed August 25, 2025

United States Geological Survey
2021 Yermo 7.5-minute topographic quadrangle, 2021

Whitson, T. D., ed., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, and R. Parker

1997 *Weeds of the West*. Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services.

APPENDIX A SENSITIVE BIOLOGICAL RESOURCES DATABASE REVIEWS

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Plants			
Emory's crucifixion-thorn (*Castela emoryi*)[1,2]	Mojavean desert scrub, Sonoran desert scrub, playas; gravelly soils, sometimes in alkali playas or washes; perennial deciduous woody shrub.	Federal: ND State: ND CNPS: 2B.2	Absent; no suitable habitat for this plant is present in the study area. This woody shrub was not observed in the study area.
Lane Mountain milk-vetch (*Astragalus jaegerianus*)[1,2]	Joshua tree woodland, Mojavean desert scrub; dry, stony hillsides and desert mesas in sands and gravel derived from granite. Common with Joshua trees, usually under shrubs. Perennial herbaceous, April through June blooming period.	Federal: ND State: ND CNPS: 1B.1	Absent; no suitable habitat is present in the study area. Evidence of this plant was not observed in the study area.
Mojave spineflower (*Chorizanthe spinosa*)[2]	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, playas, alkaline soils. Annual herbaceous, March through July blooming period.	Federal: ND State: ND CNPS: 4.2	Low; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.
Clokey's cryptantha (*Cryptantha clokeyi*)[1,2]	Mojavean desert scrub, sandy or gravelly soils. Annual herbaceous, April blooming period.	Federal: ND State: ND CNPS: 1B.2	Low; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.
Mojave monkeyflower (*Diplacus mohavensis)*[1,2]	Joshua tree woodland, Mojavean desert scrub; dry sandy or rocky washes along the Mojave River. Annual herbaceous, April through June blooming period.	Federal: ND State: ND CNPS: 1B.2	Absent; no suitable habitat is present in the study area. Evidence of this plant was not observed in the study area.
Barstow woolly sunflower (*Eriophyllum mohavense*)[1,2]	Chenopod scrub, Mojavean desert scrub, desert playas; mostly in open, silty or sandy areas with saltbush scrub or creosote scrub, barren ridges or margins of playas. Annual herbaceous, March through May blooming period.	Federal: ND State: ND CNPS: 1B.2	Absent; marginally suitable habitat is present in the study area. No playa habitat present in the study area. Evidence of this plant was not observed in the study area.

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Plants (continued)			
Death Valley sandmat (*Euphorbia vallis-mortae*)[2]	Mojavean desert scrub; sandy or gravelly sites. Perennial herbaceous, May through October blooming period.	Federal: ND State: ND CNPS: 4.2	Low; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.
Utah vine milkweed (*Funastrum utahense*)[2]	Mojavean desert scrub, Sonoran desert scrub; sandy or gravelly sites. Perennial herbaceous, April through June blooming period.	Federal: ND State: ND CNPS: 4.2	Low; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.
Torrey's box-thorn (*Lycium torreyi*)[2]	Mojavean desert scrub, Sonoran desert scrub; sandy, rocky washes, streambeds, desert valleys. Perennial woody shrub, March through June blooming period.	Federal: ND State: ND CNPS: 4.2	Absent; no suitable habitat is present for this plant. This woody shrub was not observed in the study area.
Mojave menodora (*Menodora spinescens* var. *mohavensis*)[1,2]	Mojavean desert scrub; rocky hillsides, canyons, andesite gravel. Perennial deciduous woody shrub.	Federal: ND State: ND CNPS: 1B.2	Absent; no suitable habitat is present for this plant. This woody shrub was not observed in the study area.
Darlington's blazing star (*Mentzelia puberula*)[1,2]	Mojavean desert scrub, Sonoran desert scrub; sandy crevices in cliffs or on rocky slopes. Perennial herbaceous, March through May blooming period.	Federal: ND State: ND CNPS: 2B.2	Absent; no suitable habitat is present for this plant. Evidence of this plant was not observed in the study area.
Creamy blazing star (*Mentzelia tridentata*)[1,2]	Mojavean desert scrub; found in wash banks. Annual herbaceous with an April-May blooming period.	Federal: ND State: ND CNPS: 1B.3	Absent; no suitable habitat is present for this plant. Evidence of this plant was not observed in the study area.
Graceful nemacladus (*Nemacladus gracilis*)[2]	Cismontane woodland, valley and foothill grasslands; sandy or gravelly places. Annual herbaceous, March through May blooming period.	Federal: ND State: ND CNPS: 4.3	Absent; no suitable habitat is present for this plant. Evidence of this plant was not observed in the study area.
Beaver Dam breadroot (*Pediomelum castoreum*)[1,2]	Joshua tree woodland, Mojavean desert scrub; sandy soils, washes and roadcuts. Perennial herbaceous with an April-May blooming period.	Federal: ND State: ND CNPS: 1B.2	Low; marginally suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Plants (continued)			
Parish's phacelia (*Phacelia parishii*)[1,2]	Mojavean desert scrub, playas, alkaline flats and slopes or on clay soils. Annual herbaceous with an April through May blooming period that can extend to July.	Federal: ND State: ND CNPS: 1B.1	Absent; no suitable habitat is present in the study area. Soils in the study area are sandy and not suitable for growth of this plant.
Mojave fish-hook cactus (*Sclerocactus polyancistrus*)[2]	Joshua tree woodland, Mojavean desert scrub, Great Basin scrub; well-drained soil, on rocky gravelly mesas, slopes and outcrops, sometimes on limestone. Perennial plant with an April through July blooming period.	Federal: ND State: ND CNPS: 4.2	Absent; no suitable habitat is present in the study area. Soils in the study area are sandy with no gravel to allow adequate drainage for this for growth of this plant.
Jackass-clover (*Wislizenia refracta* ssp. *refracta*)[1,2]	Joshua tree woodlands and juniper woodlands. Annual herbaceous with a blooming period of April through November.	Federal: ND State: ND CNPS: 2B.2	Low; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area and is not expected to be present in the study area.
Joshua tree (*Yucca brevifolia*)[2]	An endemic plant found associated with Sonoran and Mojavean Desert scrub, montane chaparral, pinyon and juniper woodlands.	Federal: ND State: C CNPS: CBR[3]	Absent; suitable habitat is present in the study area. Evidence of this plant was not observed in the study area.
Birds			
Tricolor blackbird (*Agelaius tricolor*)[1]	Highly colonial species most numerous in central California; requires open water, protected nesting substrate and foraging areas with insect prey within a few kilometers from the colony.	Federal: ND State: ST	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.
Golden eagle (*Aquila chrysaetos*)[1]	Rolling foothills, mountain areas, sage-juniper flats and desert.	Federal: ND State: FP	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area. Migrating birds could use the study area as forage.

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Birds (continued)			
Burrowing owl (*Athene cunicularia*)[1]	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Federal: ND State: Candidate	Low; no California ground squirrel or larger mammal burrows noted in the study area that could be occupied by burrowing owl. No California ground squirrels noted in the area. Presence of loose dogs from adjacent neighbors likely precludes the presence of this ground dweller in the study area.
Prairie falcon (*Falco mexicanus*)[1]	Inhabits dry, open terrain either level or hilly; breeding sites located on cliffs; forages far afield.	Federal: ND State: ND	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area. Migrating birds could use the study area as forage.
Yellow-breasted chat (*Icteria virens*)[1]	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses	Federal: ND State: California Species of Special Concern	Absent; no suitable habitat to support this bird is present in the study area.
Vermillion flycatcher (*Pyrocephalus rubinus*)[1]	During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures and other open mesic areas.	Federal: ND State: California Species of Special Concern	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.
Le Conte's thrasher (*Toxostoma lecontei*)[1]	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub and desert succulent scrub habitats	Federal: ND State: California Species of Special Concern	Low; the study area has limited habitat available for roosting and nesting but can be used for foraging
Fish			
Mohave tui chub (*Siphateles bicolor mohavensis*)[1]	Endemic to the Mohave River basis; adapted to alkaline mineralized water. Needs deep pools, ponds or slough-like areas, vegetation for spawning.	Federal: FE State: SE	Absent; no suitable habitat is present in the study area.
Reptiles			
Southwestern pond turtle (*Actinemys marmorata*)[1,4]	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches.	Federal: PT State: California Species of Special Concern	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Reptiles (continued)			
Desert tortoise (*Gopherus agassizii*)[1,4]	Most common in desert scrub, desert washes, Joshua tree habitat. Requires friable soils for burrow and nest construction.	Federal: FT State: ST	Low; suitable habitat for this listed reptile is found in the study area. No sign of the presence of this reptile observed in the study area. Presence of development on all sides of the study area including an active rail line to the south and Yermo Road to the north and loose dogs from the neighbors likely preclude the presence of this reptile in the study area.
Mojave fringe-toed lizard (*Uma scoparia*)[1]	Fine, loose, wind-blown sand in sand dune, dry lakebeds, riverbanks, desert washes, sparse alkali scrub and desert scrub.	Federal: ND State: California Species of Special Concern	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.
Mammals			
Townsend's big-eared bat (*Corynorhinus townsendii*)[1]	Found throughout California in a variety of habitats; most common in mesic sites; roosts in open, hanging from walls and ceilings. Extremely sensitive to human disturbance.	Federal: ND State: California Species of Special Concern	Low; the study area has no habitat available for roosting but can be used for foraging. Large trees in adjacent neighbors may be suitable for roosting.
North American porcupine (*Erethizon dorsatum*)[1]	Forested habitats in the Sierra Nevada, Cascade and Coast Ranges; wide variety of coniferous and mixed woodland habitat.	Federal: ND State: ND	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.
Desert bighorn sheep (*Ovis canadensis nelsoni*)[1]	Widely distributed from White Mountains in Mono County to Chocolate Mountains in Imperial County; open, rocky, steep areas with available water and herbaceous forage.	Federal: ND State: FP	Absent; no suitable habitat is present in the study area or in adjacent areas to the study area.

Appendix A
Sensitive Biological Resources
Freepoint Eco-Systems Yermo Supply LLC - Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Resource	Habitat and Distribution	Status Designation	Occurrence Probability
Mammals (continued)			
Mohave ground squirrel (*Xerospermophilus mohavensis*)[1]	Open desert, alkali scrub and Joshua tree woodland; also forages in annual grassland.	Federal: ND State: ST	Absent; no suitable habitat present in the study area for this sensitive mammal. Presence of development on all sides of the study area including an active rail line to the south and Yermo Road to the north and loose dogs from the neighbors likely preclude the presence of this mammal in the study area.
Insects			
Monarch butterfly (*Danaus plexippus*)[4]	Found throughout North America. Milkweed is the host plant for caterpillars.	Federal: FC State: ND	Absent; no suitable habitat to support this insect is found in the study area or in adjacent areas to the study area.

Notes:
ND No Designation
Federal Status:
FE Federally listed Endangered
FT Federally listed Threatened
PT…….Proposed Threatened
BG EPA Bald and Golden Eagle Protection Act

State Status:
C Candidate
SE State listed Endangered
ST State listed Threatened
SR State Rare
SSC California Department of Fish and Wildlife Species of Special Concern
FP California Department of Fish and Wildlife Protected Species (Fully)

California Rare Plant Ranking System:
1B.1 Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 Plants rare, threatened, or endangered in California and elsewhere; fairly threatened in California
1B.3 Plants rare, threatened, or endangered in California and elsewhere; not very threatened in California
2A: Plants Presumed extirpated in California but comment elsewhere
2B.1 Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
2B.2 Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
2B.3 Plants rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California
4.1 Plants with limited distribution or infrequent throughout a broader area in California; seriously threatened in California
4.2 Plants with limited distribution or infrequent throughout a broader area in California; moderately threatened in California
4.3 Plants with limited distribution or infrequent throughout a broader area in California; not very threatened in California

Sources:
[1]California Department of Fish and Wildlife, Natural Diversity Data Base, Yermo, Lane Mountain, Coyote Lake, Alvord Mountain West, Nebo, Harvard Hill, Dagget, Minneola, Newberry Springs USGS 7.5' Quadrangle, August, 2025
[2]California Native Plant Society, Rare Plant Program, 2024. Rare Plant Inventory (online edition v9.5), https://www.rareplants.cnps.org. Yermo, Lane Mountain, Coyote Lake, Alvord Mountain West, Nebo, Harvard Hill, Dagget, Minneola, Newberry Springs USGS 7.5' Quadrangles, Accessed June 4, 2024
[3]Considered but rejected (California Native Plant Society 2024)
[4]United States Fish and Wildlife Service, Information for Planning and Consultation (IPaC), https://www.fws.gov/ipac/index.html, 14 August 2024.

Criteria:
Present: Species was observed in or immediately adjacent to the survey/study area within the past 5 years.
High: Habitat (including vegetation, soils and elevation factors) and known historical range for the species occurs in the survey/study area and a known occurrence has been recorded within 5 miles and within the past 30 years.
Moderate: Habitat for the species occurs in the survey/study area and a known occurrence has been recorded between 5 and 10 miles away within the past 30 years. Or historical range for the species occurs in the survey/study area and a known occurrence has been recorded within 5 miles and within the past 30 years with only two of three habitat parameters present (appropriate vegetation, soils and elevation)
Low: Limited habitat for the species occurs in the survey/study area and known occurrences are greater than 10 miles from the survey/study area or over 30 years old. Or habitat quality is poor with only one parameter present (appropriate vegetation, soils and elevation).
Absent: Beyond those factors listed for Low potential, the species is easily identifiable throughout the year and was not observed (i.e., most tree species).

APPENDIX B FLORA AND FAUNA COMPENDIUM

Appendix B
Flora and Fauna Compendium
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Flora	Flowering Plants
Gymnospermae	**Pollen Producing Woody Gymnosperms**
Ephedraceae	**Ephedra Family**
Ephedra californica	Desert tea
Angiospermae: Monocotyledonae	**Monocot Flowering Plants**
Agavaceae	**Century Plant Family**
Hesperocallis undulata	Desert lily
Poaceae	**Grass Family**
Bromus madritensis	Foxtail chess*
Schismus barbatus	Common Mediterranean grass*
Angiospermae: Dicotyledonae	**Dicot Flowering Plants**
Asteraceae	**Aster Family**
Ambrosia dumosa	Burro bush
Chaenactis fremontii	Fremont pincushion
Geraea canescens	Desert dandelion
Stephanomeria pauciflora	Wire lettuce
Boraginaceae	**Borage Family**
Phacelia crenulata	Notch-leaved phacelia
Fabaceae	**Legume Family**
Prosopis chilensis	Chilean mesquite*
Brassicaceae	**Mustard Family**
Sisymbrium irio	London rocket*
Cactaceae	**Cactus Family**
Opuntia echinocarpa	Silver cholla
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	Four-winged saltbush
Salsola kali	Russian thistle*
Geraniaceae	**Geranium Family**
Erodium cicutarium	Redstem filaree*
Erodium texanum	Desert heron’s bill
Polygonaceae	**Buckwheat Family**
Eriogonum inflatum	Desert trumpets
Tamaricaceae	**Tamarik Family**
Tamarix ramosissima	Salt cedar*
Zygophyllaceae	**Caltrop Family**
Larea tridentata	Creosote

Appendix B
Flora and Fauna Compendium
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Fauna	Birds, Reptiles and Mammals
Aves	**Birds**
Columbidae	**Pigeons and Doves**
Columba livia	Feral pigeon**
Zenaida macroura	Mourning dove
Corvidae	**Crows and Jays**
Corvus corvax	Raven
Passeriformes	**Passerines**
Artemisiospiza nevadensis	Sagebrush sparrow
Haemorhous mexicanus	House finch
Mammalia	**Mammals**
Sciuridae	**Squirrels**
Ammospermophilus leucurus	Antelope ground squirrel
Reptilia	**Reptiles**
Colubridae	**Colubrid Snakes**
Masticophis flagellum	Coachwhip snake
Crotaphytidae	**Collared Lizards**
Gambelia wislizenii	Long-nosed leopard lizard
Iguanidae	**Iguana and Chuckwalla Lizards**
Diposaurus dorsalis	Desert iguana
Teiidae	**Whiptail Lizards**
Aspidoscelis tigris	Western whiptail

* Denotes non-native plant
** Denotes non-native wildlife

Baldwin, B.G., D. H. Goldman, D. J. Keil, R, Patterson, T. J. Rosatti, and D.H. Wilkin, editors.
2012 *The Jepson manual: Vascular plants of California, second edition.* University of California Press.

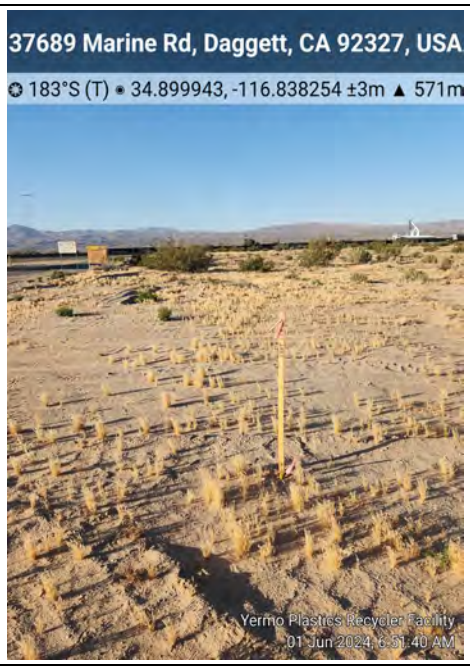
Sibley, D.A.
2003 The *Sibley Field Guide to Birds of Western North America*. Andrew Stewart Publishing,

Stebbins, R. C.
1998 *Western Reptiles and Amphibians*. Houghton Mifflin Company.

Whitson, T. D., ed., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, and R. Parker
1997 *Weeds of the West*. Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services.

APPENDIX C PHOTOGRAPH LOG

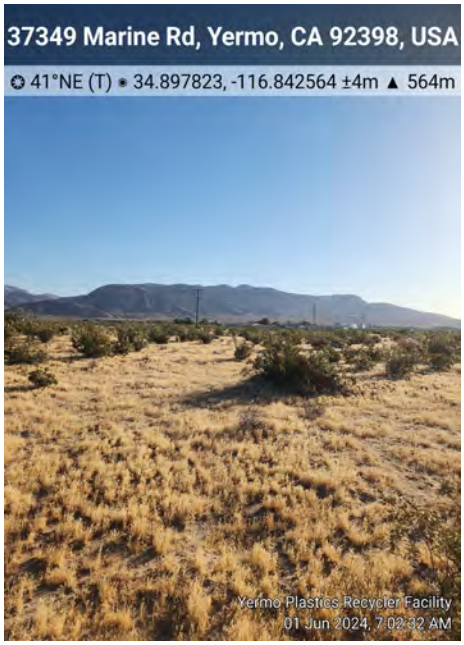
Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 1: **View of the site from the northeastern corner of APN 0537-071-19.**	

Photograph 2: **View of the site from the northeastern corner of APN 0537-071-19.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 3: **View of the site from the center of APN 0537-071-19.**	

Photograph 4: **View of the site from the center of APN 0537-071-19.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 5: **View of the site from the center of APN 0537-071-19.**	

Photograph 6: **View of the site from the center of APN 0537-071-19.**	

Photograph 7: **View of the site from the southeast corner of APN 0537-071-17.**		

Photograph 8: **View of the site from the southeast corner of APN 0537-071-17.**		

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 9: **View of the site from southern boundary of APN 0527-071-17**		

Photograph 10: **View of the site from southern boundary of APN 0527-071-17**		

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 11: **View of the site from northeastern corner of APN 0527-071-17**	

Photograph 12: **View of the site from northeastern corner of APN 0527-071-17**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 13: **View of the site from center of APN 0527-071-17**	

Photograph 14: **View of the site from center of APN 0527-071-17.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 15: **View of the site from center of APN 0527-071-17.**	

Photograph 16: **View of the site from center of APN 0527-071-15**	

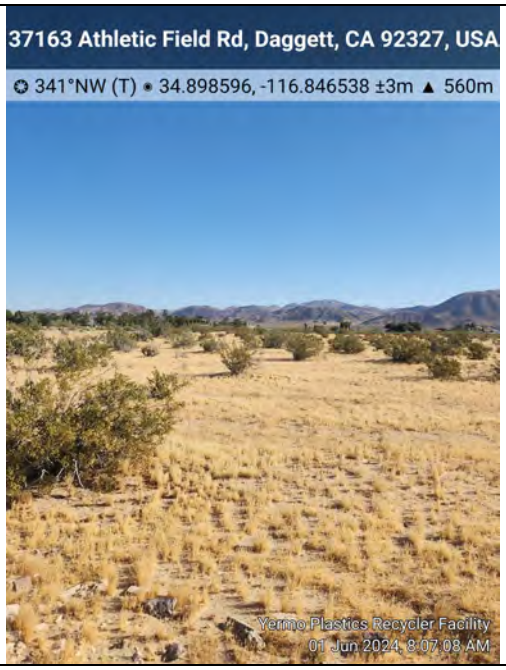
Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 17: **View of the site from center of APN 0527-071-15.**	

Photograph 18: **View of the site from center of APN 0527-071-15.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 19 **View of the site from center near southern boundary of APN 0527-071-15.**	

Photograph 20: **View of the site from center near southern boundary of APN 0527-071-15.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 21: **View of the site from center near southern border of APN 0527-071-15.**	

Photograph 22: **View of the site from center of APN 0527-071-15**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 23: **View of the site from northeastern corner of APN 0527-071-15.**	

Photograph 24: **View of the site from western border of APN 0527-071-16.**	

Appendix C
Site Photographs
Biological Reconnaissance and Habitat Assessment
Freepoint Eco-Systems Yermo Supply LLC – Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California

Photograph 25: **View of the site from southwestern corner of APN 0527-071-16.**	

APPENDIX C:
Cultural Resources Survey Report

DRAFT

Cultural Resources Survey Report

for the

Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility Project

Yermo, San Bernardino County, California



Prepared For:

Dan Pastor, PE
Senior Vice President, Special Projects
Tetra Tech, Inc
1100 S. McCaslin Boulevard, Suite 150
Superior, Colorado 80027

Report Date: August 2024, Revised October 2024, March 2025, April 2025

BARGAS
Environmental Consulting

Sacramento Valley • Inland Empire • Greater Los Angeles • San Diego • San Francisco Bay Area

www.BargasConsulting.com

Project Team

Report Author(s): Ashley Hallock, M.A. and Ari Hambley, BA.

Principal Investigator: Lily Arias, M.A.

Recommended Citation: Hallock, Ashley and Ari Hambley. 2024. Cultural Resources Report for the Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility, Yermo, San Bernardino County, California. Prepared for Freepoint Eco-Systems Yermo Supply LLC. August 2024, Revised October 2024, March 2025, April 2025.

Cultural Resources Summary Information

USGS 7.5-Minute Quadrangle(s): Yermo, California
City and County: Unincoporated San Bernardino County, CA
Survey Area: 77.57 acres

Cultural Resources Identified in Project Area: None
Previously Recorded Resources in Project Area: None
Newly Recorded Resources in Project Area: None
Resources Previously Determined Eligible for National/State Register: N/A
Resources Previously Determined Not Eligible for National/State Register: N/A
Resources Recommended as Eligible for National/State Register: N/A
Resources Recommended as Not Eligible for National/State Register: N/A

MANAGEMENT SUMMARY

Bargas Environmental Consulting, LLC (Bargas) completed a cultural resources assessment on behalf of Freepoint Eco-Systems Yermo Supply LLC (Freepoint) and under contract with Tetra Tech, Inc. for the proposed Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility Project (Project). The purpose of the assessment was to determine if the Project has the potential to impact cultural resources within the Project Area. This study was conducted in compliance with the California Environmental Quality Act (CEQA) and the California Public Resources Code (PRC).

The Project Area is comprised of 77.57 acres and is located within four (4) separate parcels (APN 0537-071-15, APN 0537-071-16, APN 0537-071-17, and APN 0537-071-19), east of Dusty Trail, south of Yermo Road, west of Jellico Street, and north of the Union Pacific Railroad alignment within the unincorporated community of Yermo in San Bernardino County, California. The Project includes the construction of the proposed Plastics Sorting and Processing Facility, which will consist of a warehouse and sorting facility in Yermo.

On June 6, 2024, Bargas requested a records search of the Project Area and a 0.5-mile radius from the California Historical Resources Information Center (CHRIS) through the South Central Coastal Information Center (SCCIC) at California State University Fullerton, Fullerton, California to identify any known cultural resources and previous investigations recorded within, and in the vicinity of, the Project Area. The SCCIC supplied the results of the records search on July 19, 2024, and the response was provided to Bargas for review. Bargas also reviewed the Built Environment Resources Directory (BERD). The records search identified nineteen previously conducted studies within the 0.5-mile search radius, two of which overlap the current Project Area. A total of sixty-six previously recorded resources were identified within the 0.5-mile search radius, none of which are within the Project Area. The BERD search was negative for historic-era built environment resources (i.e., 50 years old or older) within the Project Area.

A request for a search of the Sacred Lands File (SLF) was submitted to the Native American Heritage Commission (NAHC) in Sacramento on June 5, 2024, to identify known sensitive or sacred Native American resources located within or near the Project Area. The NAHC maintains confidential records of sites and landscapes with traditional, cultural, or religious value to the Native American community. The SLF search results were received on June 20, 2024, the results of which were negative. The NAHC provided a list of 14 contacts representing seven Native American Tribes that may have knowledge of additional cultural resources within or near the Project Area.

On August 1, 2024, two qualified Bargas archaeologists conducted an intensive-level archaeological pedestrian survey of the Project Area. No precontact or historic-era cultural resources were identified within the Project Area as a result of the pedestrian survey.

Bargas also conducted a buried site sensitivity analysis to assess the potential for the Project to encounter unknown, subsurface archaeological resources. The buried site sensitivity analysis utilizes geological maps to note disturbances and the proximity to reliable sources of fresh water and known resources within and near the Project Area as identified by the records search and field survey. There is a moderate to low possibility that as-yet undocumented, intact buried precontact- or historic-age archaeological resources are present within the Project Area.

This study did not identify any previously recorded or newly recorded cultural resources within the Project Area. Additionally, the results of the desktop review and buried site sensitivity analysis indicate that the Project Area has a low to moderate potential for the presence of as-yet undocumented buried cultural resources deposits. The potential remains, however, for Project activities to encounter unanticipated discoveries. The following protocol should be followed in the event of an inadvertent discovery.

If subsurface archaeological materials are encountered during construction, all work within 100 feet (30 meters) of the find shall be temporarily halted until the resource is recorded and evaluated. Construction activities may continue in other areas of the Project Area. If additional studies (i.e., test excavations) are needed to evaluate the California Register of Historical Resources (CRHR) eligibility of the find, a testing plan/research design shall be developed and implemented by the archaeological principal investigator (PI) in coordination with San Bernardino County and any consulting Native American tribes. No work shall occur within 100 feet (30 meters) of the resource until the resource has been fully evaluated. If the find is determined to be eligible to the CRHR, appropriate mitigation measures shall be developed and implemented by the archaeological PI, in coordination with the County and any consulting Native American tribes, to avoid or lessen significant impacts to the resource. The methods and results of the monitoring activities shall be documented in a final monitoring report with Department of Parks and Recreation (DPR) 523 site records prepared for any identified resources and included in the report as a confidential appendix.

During ground disturbance activities, the discovery of human remains is always a possibility. California state law (California Health & Safety Code 7050.5 and PRC 5097.98) regulates specific procedures to be followed in the event human remains, modern or archaeological, are discovered in the state of California. Upon discovery of human remains, all work within a minimum of 200 feet of the find must cease immediately, and the county coroner must be notified. The appropriate land manager/owner of the property shall also be notified of the discovery. The coroner will notify the NAHC if the human remains are determined to be of Native American origin. The NAHC shall identify the most likely descendant (MLD) to be consulted regarding treatment and/or repatriation of the remains. The MLD shall be granted access to examine the remains and has 48 hours to provide recommendations for the treatment or reburial of the remains. If the MLD fails to make a recommendation within 48 hours of being granted access to the remains, the land manager/owner can rebury the remains in a location not subject to further disturbance.

Table of Contents

MANAGEMENT SUMMARY ii
1 Introduction 1
1.1 Project Location and Project Area 1
1.2 Project Description 1
1.3 Environmental Setting 1
2 Regulatory Framework 5
2.1 California Environmental Quality Act and California Public Resources Code 5
3 Cultural Setting 5
3.1 Precontact Overview 5
3.2 Ethnographic Overview 6
3.2.1 Kawaiisu 6
3.2.2 Serrano 7
3.3 Historic Period Overview 7
3.4 City of Barstow History 9
3.4.1 Yermo 10
4 Desktop Analysis 10
4.1 Records Search 11
4.1.1 Previous Investigations 11
4.1.2 Previously Recorded Resources 12
4.2 Native American Heritage Commission 19
4.3 Built Environment Resources Directory (BERD) and Land Patents Search 19
4.4 Historic Map and Aerial Imagery Review 20
4.5 Buried Site Sensitivity Assessment 20
5 Field Survey 21
5.1 Pedestrian Survey Methods 21
5.2 Pedestrian Survey Results 21
6 Summary and Recommendations 24
7 References Cited 26
8 Project Personnel 30
8.1 Field Personnel 30
8.2 Report Authors 30

List of Tables

Table 1. Previously Recorded Studies within 0.5-Mile of the Project Area 11
Table 2. Previously Recorded Resources within 0.5-Mile of the Project Area 13

List of Figures

Figure 1. Project Location and Vicinity Map 3
Figure 2. Project Area Map 4
Figure 3. Overview of Northwest Portion of Project Area; View-Southwest 22
Figure 4. Overview of Northwest Portion of Project Area, Private/Inaccessible Property in Background; View Northwest 22
Figure 5. Push Pile/Construction Demo/Area of Disturbance; View South 23
Figure 6. Gravel Dump Area; View West 23
Figure 7. Overview of Project Area; View Southeast 24

Appendices

Appendix A. SCCIC Records Search Results (CONFIDENTIAL – DO NOT DISTRIBUTE)
Appendix B. Native American Heritage Commission Correspondence

1 Introduction

Bargas Environmental Consulting, LLC (Bargas), on behalf of Freepoint Eco-Systems Yermo Supply LLC (Freepoint), and under contract with Tetra Tech, Inc., conducted a cultural resources assessment for the proposed Plastics Sorting and Processing Facility Project (Project). The purpose of the assessment was to determine if the Project has the potential to impact existing and as-yet unidentified cultural resources. This assessment was conducted in compliance with the California Environmental Quality Act (CEQA) and California Public Resources Code (PRC) and comprises the results of the cultural resources research and survey conducted for the Project.

1.1 Project Location and Project Area

The Project Area is situated within Township 9 North, Range 1 East, Section 2 of the United States Geological Survey's (USGS) *Yermo, California* 7.5-minute quadrangle (Figure 1). The Project Area is comprised of 77.57 acres and is located within four (4) separate parcels (APN 0537-071-15, APN 0537-071-16, APN 0537-071-17, and APN 0537-071-19), east of Dusty Trail, south of Yermo Road, west of Jellico Street, and north of the Union Pacific Railroad alignment within the unincorporated community of Yermo in San Bernardino County, California. The surrounding area consists of sparsely developed residential areas, the Marine Corps Logistics Base, vacant lots, and limited commercial and industrial activity.

1.2 Project Description

The proposed Project will include the construction of a warehouse and sorting facility. The warehouse facility will contain a tip floor, sorting equipment (including screens, opticals, ellipticals, magnets, eddy currents, bunkers for offtake of rejected plastics), and shredding and baling equipment. The proposed warehouse will have various truck bays (incoming material will come via truck) and appropriate storage areas. Incoming materials received at the Yermo site would consist of either post-industrial waste or post-consumer material from materials recovery facilities (MRFs). After the materials are sorted, all reusable feedstock (including the post-industrial waste) would be prepared for shipment to a facility in Eloy, Arizona (the Arizona Facility). Outbound freight will ultimately be transported by rail; however, consideration of permitting requirements for rail service or rail improvements are beyond this scope of work. A rail spur will be constructed and sorted plastics can be unloaded from the building and shipped to the Arizona facility. Residual materials will be trucked away from the site for additional processing or to a landfill.

1.3 Environmental Setting

The Project Area is within the Mojave Desert region of unincorporated San Bernardino County in southeastern California. The Mojave Desert lies within the Great Basin, extending from the mountains of the Sierra Nevada in the north and transitioning into the Sonoran Desert to the southeast and south. The San Gabriel and San Bernardino Mountains border the Mojave Desert on the southwest. The Mojave River is south of the Project Area and the Calico Mountains lie to the north (Google Earth 2024). Elevations within the Project Area range from approximately 1,946 to 1,948 feet above mean sea level (AMSL).

The Project Area is mapped as Quaternary (Q) Pleistocene- to Holocene-age alluvial, lake, playa, and terrace deposits (USGS 2024). Soils within the Project Area consist predominantly of Cajon series soils, which are very deep, somewhat excessively drained soils that formed in alluvium from granitic rocks and are typically found on alluvial fans, fan aprons, fan skirts, inset fans, and river terraces. Soils within the Helendale and Kimberlina series

are also found within the Project Area. Helendale series soils consist of very deep, well-drained soils that are formed in alluvium from granitoid rocks. Kimberlina series soils consist of very deep, well-drained soils typically formed from mixed alluvium derived from igneous and sedimentary rocks. Both Helendale and Kimberlina series soils are typically located on flood plains and recent alluvial fans (Soilweb 2024).

Within disturbed areas of the vacant and undeveloped Project site, the plant community consists primarily of tall grasses and invasive species. The surrounding environment consists of typical Mojave Desert plant species including sagebrush, creosote bush, burro-weed, mustard, foxtail, and other invasive grass species. The closest source of water is the Mojave River, flowing above ground south of the Project Area only intermittently.

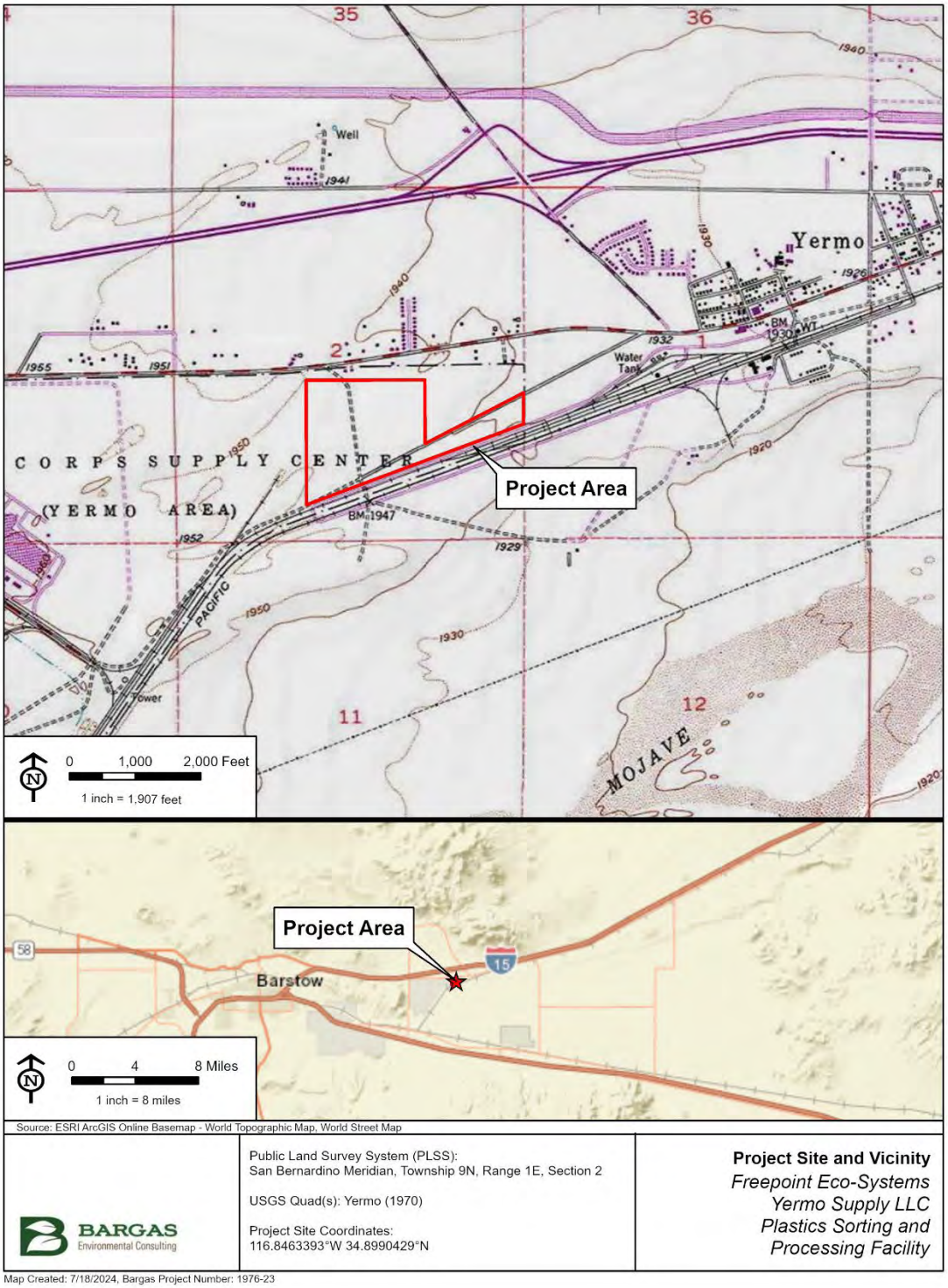


Figure 1. Project Location and Vicinity Map



Figure 2. Project Area Map

2 Regulatory Framework

2.1 California Environmental Quality Act and California Public Resources Code

This report was prepared in compliance with the California Environmental Quality Act (CEQA) and the California Public Utilities Code (PRC). According to Section 15064.5 of the CEQA Guidelines, the potential impacts of a proposed project on significant cultural resources must be considered during the planning process. A project that may cause a substantial adverse effect on the significance of a historical resource is a project that may have a significant effect on the environment. If a project would result in significant adverse effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed.

Per CEQA, significant resources, defined as "historical resources," are those that are: 1) determined eligible for, or are listed in, the California Register of Historical Resources (CRHR), 2) included in a local register of historical resources, or 3) any buildings, sites, structures, objects, or districts, which may have historical, pre-historical, architectural, archaeological, cultural, or scientific importance and that a lead agency determines to be historically significant. PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of California's historical resources and to indicate which resources are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established federal criteria for listing in the National Register of Historic Places (NRHP).

The CEQA process for identifying potential impacts to cultural resources includes: (a) the identification of cultural resources (resources greater than 45 years in age) within a proposed project area; (b) an evaluation of whether the identified resources qualify as historical resources; (c) an assessment to determine whether a project may have a significant impact on historical resources, including tribal cultural resources as defined at PRC Section 21074; and finally (d) the development of avoidance/preservation measures or mitigation measures that would preferably avoid impacts or reduce potential impacts to a level that is less than significant.

3 Cultural Setting

3.1 Precontact Overview

It is generally believed that human occupation of California dates to at least 10,000 years before present (BP). Four cultural periods of precontact occupation of California during the Holocene Epoch (10,000 years BP to present) are discussed below: the Early Holocene Period, the Early Horizon Period, the Middle Horizon Period, and the Late Horizon Period (Moratto 1984).

During the Early Holocene Period (10,000 to 8,000 years BP), hunters/gatherers utilized lacustrine and marshland settings for the varied and abundant resources found there, including fish. Milling-related artifacts are lacking during this period, possibly indicating less reliance or processing of vegetal resources. Atlatl and dart are common in sites dating to this period, indicating hunting of large and small game. A few scattered permanent settlements were established near large water sources, but a nomadic lifestyle was more common (Moratto 1984). The presence of isolated finds and a small number of sites within inland mountains and valleys suggests seasonal use of those areas (Erlandson 2012).

Milling-related artifacts first appear in sites dating to the Early Horizon Period (8,000 to 4,000 years BP), indicating a greater reliance on vegetal foods. Hunting and gathering continue during this period, but with increased use of seeds, nuts, and roots. The processing of acorns is prominent during this period. Diagnostic artifacts from this period include core tools, groundstone, cogged stones, and discoidals. Beads began to be used with increasing frequency (Moratto 1984).

A greater consumption of shellfish, including mussels and oysters, is reflected in sites dating to the Middle Horizon Period (4,000 to 2,000 years BP). Use of bone artifacts appears to have increased during this period, and baked earth steaming ovens were developed. Mortars, pestles, and side-notched projectile points are common. Occupation of permanent or semi-permanent villages increased in this period, along with use of seasonal sites, particularly within the coastal mountains (Moratto 1984; Glassow et al. 2007).

During the Late Horizon Period (2,000 years BP to the time of European Contact [i.e., AD 1769]), the population of the region increased, as did the number and size of permanent villages (Erlandson 1994; Moratto 1984). The hunting of faunal resources was the primary subsistence strategy, supplemented by the gathering of plant foods, particularly acorns. Large villages served as trade centers and shell beads were introduced as trade items in exchange for goods. A strong artistic tradition developed using bone, shell, stone, and basketry. Regional subcultures developed during this period, each with their own geographical territory and language or dialect. These groups were often bound by shared cultural traits and maintained a high degree of interaction and trade (Chartkoff and Chartkoff 1988).

3.2 Ethnographic Overview

The Project Area is located in territory known ethnographically to have been occupied by the Serrano and the Kawaiisu. A summary of ethnographic information is provided below for both groups.

3.2.1 Kawaiisu

The Kawaiisu were primarily situated around a low mountainous ridge between the Mojave Desert and the San Joaquin Valley, which included portions of the Tehachapi Mountains and the Sierra Nevada. The Kawaiisu language makes up the westernmost Numic branch of the Uto-Aztecan family; however, some linguists classify it as an entirely separate language. Kawaiisu territorial limits are difficult to establish since they had little concept of territory or boundary and only a general recognition of a home base. They are known to have moved about over large areas in search of seasonal food resources. Kawaiisu utilized over 110 different types of plant resources as food, including acorns, juniper, piñon, mariposa, rice grass, fiddleneck, wild celery, chia, mesquite, screwbean, box thorn, mustard, yucca, and Joshua tree. Game food also included a wide variety of species. Deer was the favorite, but was supplemented with antelope, mountain sheep, rodents, chuckwallas, birds, insects, and many other animal species (Zigmond 1986).

Structures included winter houses made of wood poles, willow, bark, and brush; open, flat-roofed shade houses for the summer; and earth-covered sweathouses. Bark and tule mats were used to fortify structures for extra protection from rain and also serve as doors. Circular brush enclosures were created for encampments and ceremonies. Granaries about two feet tall were constructed to store acorns, nuts, and seeds. Kawaiisu technology included the bow and arrow with projectile points; bone and thorn awls; undecorated pottery (possibly obtained through trade); twined and coiled baskets; cordage for use in nets and mats and to tie and bind other materials; and stone bowls and pestles (Zigmond 1986).

Social and political organization among the Kawaiisu was primarily limited to the family unit. Some families tended to dwell close to one another and work together in search of food and other resources. The Kawaiisu were generally known to be friendly, peaceful people. On occasion, the Kawaiisu participated in intertribal game drives with the Chumash and Yokuts, their neighbors to the west and northwest, respectively. Mortuary practices consisted of wrapping a body in a tule mat, placing it in a rock cleft, then covering it with a split basket and layer of rocks.

The aboriginal population of the Kawaiisu was probably around 500 prior to contact with Europeans, circa 1769. After Euro-American trappers and miners settled in the area in the 1800s, the population dwindled to around 150. Like the neighboring Vanyume, all manifestations of tribal life had disappeared by the 1960s and very few descendants of the Kawaiisu culture are known today (Zigmond 1986).

3.2.2 Serrano

The Serrano people inhabited the San Gabriel and San Bernardino Mountains, the Mojave Desert to the north, and the San Bernardino Valley to the south. Serrano is a dialect of the Serran sub-group of the Takic language group within the Uto-Aztecan family of languages (Bean and Smith 1978).

The Serrano lived in several different environmental zones that they could use to exploit a variety of resources. The Serrano were mainly hunters and gatherers who occasionally fished. Game that was hunted included bighorn sheep, deer, antelope, rabbits, small rodents, and various birds. Vegetable staples consisted of acorns, piñon nuts, bulbs and tubers, shoots and roots, berries, mesquite, barrel cacti, and Joshua tree (Bean and Smith 1978).

A variety of materials were used for hunting, gathering, and processing food, as well as for shelter, clothing, and luxury items. Shells, wood, bone, stone, plant materials, and animal skins and feathers were used for making baskets, pottery, blankets, mats, nets, bags and pouches, cordage, awls, bows, arrows, drills, stone pipes, musical instruments, and clothing (Bean and Smith 1978).

Settlement locations were determined by water availability, and most Serrano lived in small villages near water sources. Houses and ramadas were round and constructed of poles covered with bark and tule mats (Kroeber 1925). Most Serrano villages also had a ceremonial house used as a religious center. Other structures within the village might include granaries and sweathouses (Bean and Smith 1978).

The Serrano were loosely organized along patrilineal lines and associated themselves with either the *Tukum* (wildcat) or the *Wahilyam* (coyote) moiety. Organization of individual bands of Serrano was considered by Kroeber (1925) to be similar to political groups. Tribes, as opposed to bands, were larger in numbers and more socially complex, and can be distinguished from each other by having distinct dialects based on spatial discreteness.

Partly due to their mountainous, inland territory, contact between Serrano and European-Americans was minimal prior to the early 1800s. In 1819, a Spanish *capilla* (chapel) was established near present-day Redlands and used to relocate many Serrano to Mission San Gabriel Arcángel. However, small groups of Serrano remained in the area northeast of the San Gorgonio Pass and were able to preserve some of their native culture. Today, many Serrano live on the Morongo and San Manuel Indian reservations (Bean and Smith 1978; Bean and Vane 2002).

3.3 Historic Period Overview

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Arriving at San Diego Bay, the homeland of the Tipai and Ipai (called Digueños by the Spanish, now known as Kumeyaay), Cabrillo also

encountered the neighboring Luiseño, Cahuilla, Cupeño, and North Diegueño Indigenous peoples before sailing on to explore Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaíno also named San Diego Bay to commemorate Saint Didacus. The name began to appear on European maps of the New World by 1624 (Gudde 1998:332).

The colonization of California began shortly after the first Spanish land expedition to the territory they called Alta (Upper) California, the region directly north of Baja (Lower) California. That expedition, led by Captain Gaspar de Portolá, then governor of Spanish Alta and Baja California, and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to the Monterrey Bay Area and back, from May 1769 to January 1770. As a result of this expedition, Spanish missions, presidios (forts) and towns, were established. The Franciscan Order of missionary friars founded 21 missions in Alta California, beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. Mission San Diego was established to convert the Native Americans living in the area to Spanish Catholicism and serve as a labor force. Mission San Gabriel Arcángel was founded in 1771 east of what is now Los Angeles to convert the Gabrieleno. Mission San Fernando, also in Gabrieleno territory, was established in 1797. Mission San Luis Rey was established in 1798 on the San Luis Rey River (in what is now northern San Diego County) to convert the Acjachemen (Juaneño) and the Luiseño (or Payomkowishum). Missions San Buenaventura and Santa Barbara were founded in Chumash territory in 1782 and 1786, respectively (Castillo 1978).

Some missions later established "asistencia" (mission outposts) in inland areas. An asistencia of Mission San Luis Rey, known as San Antonio de Pala, was built in Luiseño territory along the upper San Luis Rey River near Mount Palomar in 1810 (Pourade 1961). A chapel administered by Mission San Gabriel Arcángel was established in the San Bernardino area in 1819 (Bean and Shipek 1978). An asistencia within the western outskirts of present-day Redlands was built circa 1830 (Haenszel and Reynolds 1975). The missions sustained themselves through cattle ranching and by trading hides and tallow for supplies brought by ship. Mission San Luis Rey established large cattle ranches at Temecula and San Jacinto (Gunther 1984). The Spanish also constructed presidios at San Diego and Santa Barbara, and a pueblo at Los Angeles. The Spanish colonial period in Alta California began in 1769 with the Portolá expedition and ended in 1821 with Mexican independence from Spain (Castillo 1978).

After 1821, what is now California actively came under Mexican governance. The Mexican government closed the missions in the 1830s and former mission lands were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys were distributed as land grants, or "Ranchos" (Robinson 1948). During the Mexican period, the residential settlements at San Diego (near the presidio), San Juan Capistrano (around the mission), and Los Angeles were small. Rancho owners often had a residence within one of the pueblos as well as an "adobe" (house) on the rancho.

In 1848, following two years of war with the United States (U.S.), the Mexican period ended with both nations signing the Treaty of Guadalupe Hidalgo. The massive Alta California region that Mexico surrendered under the Treaty eventually became the states of California, Nevada, Utah, and parts of Arizona, Wyoming, and Colorado. Following the discovery of gold in California's Sierra Nevada foothills in 1848, the region began experiencing explosive population increase after news of the gold strike reached the east coast, and beyond, in 1849. A surge

of gold seekers from around the world allowed California to become a state, in 1850, without transitioning through the process of becoming a U.S. territory beforehand (Robinson 1948).

Under U.S. governance, most Mexican land grants were confirmed to the grantees in court, though often with more restrictive boundaries established by the U.S. Surveyor General's office through land surveys. Land that was not part of a recognized land grant was solely owned by the U.S. government until it might be acquired by individuals through purchase or homesteading. Floods and drought in the 1860s greatly reduced the cattle herds on the ranchos, making it difficult to pay the new American taxes on the thousands of acres they owned. Many Mexican-American cattle ranchers borrowed money at usurious rates from newly arrived Anglo-Americans. The resulting foreclosures and land sales transferred most of the land grants into the hands of Anglo-Americans (Cleland 1941:137-138).

3.4 City of Barstow History

The city of Barstow is situated at the junction of three historic trails: the Old Mohave Trail, the Old Spanish Trail/Mormon Road, and U.S. Route 66. These trails were primary travel routes used by Native Americans, Spanish-era traders, and Euro-American pioneers as well as contemporary travelers. The earliest non-Native American exploration of the region dates to 1776, during the era of Spanish colonization, when Franciscan Father Francisco Garcés passed through on his historic fifth entrada. Seeking an overland route between the Spanish capitals of Santa Fe, Nuevo México and Monterey, Alta California, Garcés and two Mohave guides explored the entire length of the Mojave River before trekking west to Mission San Gabriel Arcángel (Steiner 1999).

In 1826, five years after Mexico won independence from Spain, Euro-American explorer Jedidiah Smith led a fur-trapping expedition through the area along the Old Mojave Trail but was accused of spying for the U.S. and ordered to leave the territory (Steiner 1999). In 1847, 18 Mormon men with 130 mules and one wagon traveled to Los Angeles from Salt Lake City, breaking ground on the Mormon Road. Joining the Old Spanish Trail in Parowan Valley, Utah, this journey showed that a wagon could make the trip over the rugged route. Soon after, word got out of the 1848 gold strike at Sutter's Mill and thousands of gold seekers passed through the area (USDI BLM n.d.).

A settlement began to grow at the site of present-day Barstow by 1830, and an 1877 U.S. Army map noted the place names of Fishpond and Grapevine (Steiner 1999). By 1864, Grapevine was known as a trading post (Road Wanderer 2003). The town was Waterman Junction from 1881 until 1886, when the Post Office took the name Barstow in recognition of William Barstow Strong, the head of the Santa Fe Railroad (Encyclopedia Britannica, 1998). A silver strike in the nearby Calico Mountains in 1882 brought the railroad to Daggett, 5.0 miles to the east. Daggett and Barstow grew rapidly and a borax strike in 1883 made the area a major mining center. Barstow was the regional supply center for railroading and mining well into the 20th century (City of Barstow n.d.).

In 1915, Barstow High School was established within a local home, followed by the town's first library in 1916. In 1926, one of the original routes in the U.S. Highway system, U.S. Route 66, became Barstow's Main Street, bringing the town national attention. In 1929, one of the first national airports opened in Barstow. Selected by renowned aviator Charles Lindberg as an airport for a proposed government airmail contract, it was designated an important civilian airfield in the early 1940s (City of Barstow). The airfield took on a strategic role as multiple military establishments were built in the vicinity to support the WWII war effort, including a large U.S. Marine Corps supply depot and Camp Irwin, which became Fort Irwin in 1961. Having become a major hub for transportation in California's Inland Empire, the City of Barstow was incorporated in 1947 (City of Barstow). With the establishment

of the intersection of Interstate 15 and Interstate 40 in 1961 and being served by both the Burlington Northern Santa Fe and Union Pacific railroads, Barstow today continues to be an important crossroads in the Mojave Desert (City of Barstow n.d.).

3.4.1 Yermo

The Project Area is within the unincorporated community of Yermo, approximately 7.0 miles east of Barstow. In the late 1800s (1880s to 1890s), prior to the establishment of Yermo, the nearby mining settlement of Calico, approximately 2.5 miles to the northwest, brought fortune seekers into the area (Hoover et al. 2002 [1935]). Calico, named after the Calico Hills where it was situated, was established in the 1880s as word spread about the profitable silver mine. After the silver mine failed in the late 1800s, the settlement was all but deserted and became a "ghost town." In 1952, Walter Knott, owner of Knott's Berry Farm in Orange County and nephew of a sheriff at Calico in 1882, purchased and restored the town with the idea to turn it into a historic attraction/theme park. It operated for many years until he deeded it to San Bernardino County in 1966, and the County established it as "Calico Ghost Town Regional Park."

Yermo, originally known as Otis, was established as a rail stop along the Union Pacific Railroad line in 1903. Seymore Alf, the owner of Empire Construction Company, was subcontracted to build and complete a segment of Union Pacific Railroad through Otis to service the San Pedro-Los Angeles-Salt Lake City Railway. Otis continued to grow, with the majority of its populace being railroad employees and the town becoming a company town. Originally, tents housed its resident families, but Otis eventually expanded and transitioned from tents to cabins. By 1905, it had two stores, a depot, a roundhouse, and a telegraph line. In 1907, the postmaster changed the town's name to Yermo (meaning "Wilderness" in Spanish) to avoid confusion with Otis, Colorado. Yermo became well-known to outdoor enthusiasts as a prime location for hunting waterfowl due to its proximity to the Mojave River.

In 1930, Yermo became the site of the sole California Agricultural Inspection Station between California and Nevada. In 1963, following a realignment of Interstate 15 that bypassed the town on the north, the town went into a decline (Hearm 1978). The California Agricultural Inspection Station on Interstate 15 at Yermo continued in service until 2018, when the station was relocated to southern Nevada, 100 miles to the northeast, to relieve what had become a major bottleneck on Interstate 15 (Campbell 2018). Today, Yermo remains a small community with a somewhat transient population primarily serving military personnel of the nearby Marine Corps Logistics Base-Barstow to the west and Fort Irwin National Training Center to the north, and employees of the Burlington Northern Santa Fe (BNSF) Railway and their families (Feller 2023).

4 Desktop Analysis

A records search of the Project Area and a 0.5-mile radius was requested on June 6, 2024, of the California Historical Records Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) at California State University Fullerton, Fullerton, California. The records search was requested to identify known cultural resources and previous investigations within and near the Project Area. The records search included search of previously identified sites and surveys within the Project Area and a 0.5-mile radius of the Project Area. The records search results were received from the SCCIC on July 19, 2024 (Appendix A – Confidential – Do Not Distribute). Additionally, a search of historic maps, records and aerial photographs, and a buried site assessment were conducted.

4.1 Records Search

4.1.1 Previous Investigations

The SCCIC records search identified nineteen previous cultural resource investigations conducted within a 0.5-mile record search radius of the Project Area (Records Search File No.:26078.12118). Two of the previously conducted studies overlap the Project Area, both of which included pedestrian surveys (S-00700; S-04212).

SB-00700 consists of a literature review, records search, and field study covering the entirety of the Project Area conducted by the San Bernardino County Museum Association in 1978 for the Union Pacific Railroad Company's construction of the Mini Hump Classification Yard in Yermo, California. The survey was negative (Hearn 1978). SB-04212 consists of a Class I and Class III cultural resources inventory conducted by the Harry Reid Center, University of Nevada, Las Vegas in 2001 for the proposed 2003 Kern River Expansion Project. The pedestrian survey covered 163 acres, including the southern portion of the current Project Area. The survey was negative for resources within the current Project Area (Wedding 2001).

The nineteen studies within the 0.5-mile radius of the Project Area, conducted between 1967 and 2016, are listed below (Table 1).

Table 1. Previously Recorded Studies within 0.5-Mile of the Project Area

Report Number (SB)	Year	Title	Author	Proximity to Project Area
00078	1967	Life and Adventure along the Mojave River Trail	Walker, Clifford (San Bernardino County Museum Association Quarterly)	Outside
00700	**1978**	**Archaeological-Historical Resources Assessment of Portions of Section 1, 2 and 11 (Township 9 North, Range 1 East) Yermo Quadrangle, Yermo, California**	**Hearm, Joseph E. (San Bernardino County Museum Association)**	**Overlaps**
01820	1988	Cultural Resource Survey and Clearance for Re-routed Portions of the Proposed American Telephone and Telegraph Las Vegas to San Bernardino Fiberoptics Communication Route	Peak & Associates, Inc.	Outside
02449	1991	Cultural Resources Reconnaissance of 12.1 Acres and Test Excavation of a Small Archaeological Site Near Yermo, San Bernardino, California	Bissell, Ronald M. and Kenneth M. Becker (RMW Paleo Associates)	Outside
02458	1991	Addendum to: Cultural Resources Reconnaissance of 12.1 Acres and Test Excavation of a Small Archaeological Site Near Yermo, San Bernardino, California, Dated 22 August 1991	Shinn, Juanita R. (RMW Paleo Associates)	Outside
02987	1994	A Cultural Resource Assessment for Two Monitoring Well Locations near Yermo, San Bernardino County, CA	Brock, James (Archaeological Advisory Group)	Outside
02989	1994	A Report on Cultural Resources Investigations at the Proposed Locations of Well Sites Associates with the Navy "Clea" Program, Yermo, CA	McKenna, Jeanette A.	Outside

Report Number (SB)	Year	Title	Author	Proximity to Project Area
03028	1995	Completion of Archaeological Investigations at the Yermo & Nebo Well Sites (P.O. NO. 01-F298-YB-P95-0111)	McKenna, Jeanette A.	Outside
03519	1996	Cultural Resources Inventory Survey Marine Corps Logistics Base, Barstow, CA 64PP	Manley, William (WM Manley Consulting)	Outside
03522	1999	Cultural Resources Investigation of Four Test Borings Adjacent to the Yermo Annex Marine Corps Logistics Base, Barstow, CA. 11PP	Strudwick, Ivan (LSA)	Outside
04212	**2001**	**Cultural Resources Inventory for CA: Pipe Storage Yard Contractor Yards & Offloading Sites Issued for Supplemental Filing to Docket NO. CP01-422-00, Addendum: Cultural Resource Class I and Class III Investigations for the Proposed Kern River Expansion Project, California**	**Wedding, Jeffrey R. (Harry Reid Center)**	**Overlaps**
04213	2000	Bug 33kV Transmission Line, San Bernardino County	Schmidt, James J. (Compass Rose)	Outside
04465	2004	Greer 12kV Distribution Line in the Yermo Area, San Bernardino County	Schmidt, James M. (Compass Rose)	Outside
04561	1999	Cold War Era Historic Resources Eligibility, Mclb, Barstow, CA	Manley, William R. (William Manley Consulting)	Outside
06881	2009	Archaeological Survey Report for Southern California Edison's Service Pole Replacement on the Mule Canyon 12kV Transmission Line in Yermo, San Bernardino, California	Heidelberg, Kurt (AECOM)	Outside
06896	2009	Archaeological Survey Report for Southern California Edison's Service Pole Replacements in and Near Barstow, San Bernadino County, California	Heidelberg, Kurt (AECOM)	Outside
07518	2013	Grid Reliability and Maintenance (GRM) Program – 2014 DPMO WCR Mule Canyon 12kV o/o Yermo Substation Project (TD 705946), Yermo, San Bernardino County, California	Glentis, Dionisios (Southern California Edison)	Outside
07960	2010	Class III Cultural Resources Survey Addendum for the Proposed Calnev Expansion Project, California Portion San Bernardino County, California	Self, William (William Self Associates, Inc.)	Outside
08196	2016	A Cultural Resources Investigation of the Proposed Yermo Water System Pipeline Installation/Replacement Project, Yermo, San Bernardino County, California	McKenna, Jeanette A., and Robin Laska	Outside

*Bold indicates the previous study overlaps the Project Area.

4.1.2 Previously Recorded Resources

The records search identified 63 previously recorded resources within 0.5-mile of the Project Area including 49 historic-era built environment resources, primarily consisting of single family properties and road alignments; 10 precontact cultural resources consisting of lithic scatters and isolates; 3 historic-era resources (i.e., 50 years old or older) consisting of refuse scatters; and 1 multicomponent historic site with a built environment component consisting of standing structures, foundations/pads, walls/fences, machinery and railroad alignment. The resources are discussed below (Table 2).

No previously recorded resources were identified within the Project Area.

Table 2. Previously Recorded Resources within 0.5-Mile of the Project Area

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
P-36-001910 (CA-SBR-001910H)	AH04 (Privies/dumps/trash scatters); AH07 (Roads/trails/railroad grades); HP11 (Engineering structure); HP18 (Train); HP39 (Other)	Historic-era Built Environment	Union Pacific Railroad; San Pedro-Los Angeles and	1991 (Hanks); 1991 (Becker, Kenneth M.); 1997 (Neuenschwander, Neal); 2002 (Wedding, Jeffrey); 2008 (Sander, Jay K.); 2009 (Daly, Pamela); 2010 (Lange, Fred); 2012 (Granger, G.); 2013 (Martinez, D.); 2017 (Voisin, Laura); 2020 (Urbana)	Outside
P-36-004272 (CA-SBR-004272H)	AH07 (Roads/trails/railroad grades); HP37 (Highway/trail)	Historic-era Built Environment	Old Spanish Trail; Salt Lake – Santa Fe Trail; Mojave trail	1970 (Arbuckle, Jim); 1980 (Reynolds, Robert E.); 1987 (Benton, James S.); 1990 (James, Henry E.); 1992 (Taskiran, Ayse); 1992 (Love and Hogan); 1992 (Laney, Barbie S.); 1993 (McKenna, Jeanette); 1993 (Macko, M.); 1993 (Becker, Kenneth); 1997 (Neuenschwander, Neal); 1997 (Barros, Philip de); 2002 (Fleming, Nathan); 2003 (Sander, J.); 2005 (Byrd, Brian); 2005 (Pollock, Katherine); 2006 (McDougall, D.); 2007 (Ballester, Daniel); 2010 (Valak, Molly); 2011 (Wilson, S., T. Contreras, and S. Bietz); 2011 (Winslow, D. and S. Andrews); 2011 (Trampier, Joshua);	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
				2011 (Hoffman, R.); 2012 (Granger, G.); 2012 (Jaynes, J.); 2014 (Kirwan, Tadhg); 2020 (Urbana)	
P-36-007029 (CA-SBR-007029)	AP02 (Lithic scatter)	Precontact	Yermo-1	1991 (Becker, Kenneth M.)	Outside
P-36-010284 (CA-SBR-010284)	AP02 (Lithic scatter)	Precontact	None	1999 (Gray)	Outside
P-36-010628 (CA-SBR-010628H)	AH02 (Foundations/structure pads); AH07 (Roads/trails/railroad grades); AH10 (Machinery); AH11 (Walls/fences); AH15 (Standing structures)	Historic; Built Environment	Yermo Railroad Roundhouse Industrial Complex	2001 (William White, Harry Reid Center for Environmental Studies - UNLV)	Outside
P-36-010629 (CA-SBR-010629H)	AH04 (Privies/dumps/trash scatters)	Historic	None	2001 (William White, Harry Reid Center for Environmental Studies - UNLV)	Outside
P-36-010630 (CA-SBR-010630H)	AH04 (Privies/dumps/trash scatters)	Historic	None	2001 (William White, Harry Reid Center for Environmental Studies - UNLV)	Outside
P-36-012658 (CA-SBR-012357H)	AH07 (Roads/trails/railroad grades); HP37 (Highway/trail)	Historic-era Built Environment	None	2006 (HATHEWAY). 2011 (K. Chmiel, ICF). 2014 (C. Peterson, Cogstone); 2020 (None, Urbana)	Outside
P-36-021550 (CA-SBR-013856H)	AH04 (Privies/dumps/trash scatters)	Historic	None	2008 (Rachael Nixon, URS)	Outside
P-36-021563 (CA-SBR-013868H)	AH04 (Privies/dumps/trash scatters)	Historic	None	2008 (Richard Nixon, URS)	Outside
P-36-021627	HP34 (Military property)	Historic-era Built Environment	USMC Supply Center – Yermo Annex	2008 (Jeremy Hollins, URS); 2021 (Angela Rothman et al, HNTB)	Outside
P-36-021629	AH07 (Roads/trails/railroad grades); HP06 (1-3 story commercial building); HP11 (Engineering	Historic; Built Environment	Yermo Road	2008 (Jeremy Hollins, URS); 2012 (T. Murphy, Chambers Group); 2020 (None, Urbana)	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
	structure); HP37 (Highway/trail)				
P-36-029386	HP02 (Single family property); HP03 (Multiple family property); HP04 (Ancillary building); HP06 (1-3 story commercial building); HP08 (Industrial building); HP09 (Public utility building); HP13 (Community center/social hall); HP15 (Educational building); HP17 (Railroad depot); HP39 (Other)	Historic-era Built Environment	Community of Yermo; Otis	2016 (Jeanette McKenna, McKenna et al); 2021 (Leslie Schwab, HNTB)	Outside
P-36-034231	AH07 (Roads/trails/railroad grades); HP37 (Highway/trail)	Historic-era Built Environment	674_Access Road to SCE Boulder Dam-San Bernardino Transmission Line	2020 (None, Urbana Preservation & Planning, LLC)	Outside
P-36-034275	AH07 (Roads/trails/railroads); HP37 (Highway/trail)	Historic-era Built Environment	Unnamed Road	2020 (None, Urbana Preservation & Planning, LLC)	Outside
P-36-034908	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034909	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Leslie Schwab, HNTB Corporation)	Outside
P-36-034910	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Leslie Schwab & Emma Rutkowski, HNTB Corporation)	Outside
P-36-034911	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Leslie Schwab & Emma Rutkowski, HNTB Corporation)	Outside
P-36-034912	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034913	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Leslie Schwab & Emma Rutkowski, HNTB Corporation)	Outside
P-36-034914	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
P-36-034915	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034916	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034917	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034918	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034919	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034920	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034921	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034922	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034923	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034924	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034925	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034926	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
				Tan, HNTB Corporation)	
P-36-034927	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034928	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034929	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034930	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034931	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034932	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034933	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034934	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034935	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034936	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034937	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
P-36-034938	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034939	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034940	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034941	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034942	HP02 (Single family property)	Historic-era Built Environment	None	2021 (Angela Rothman & Huijun Tan, HNTB Corporation)	Outside
P-36-034953	HP37 (Highway/trail)	Historic-era Built Environment	Frampton Road	2021 (Angela Rothman, HNTB Corporation)	Outside
P-36-034954	HP37 (Highway/trail)	Historic-era Built Environment	Rosemary Avenue	2021 (Angela Rothman, HNTB Corporation)	Outside
P-36-034955	HP37 (Highway/trail)	Historic-era Built Environment	Frontier Avenue	2021 (Angela Rothman, HNTB Corporation)	Outside
P-36-034956	HP37 (Highway/trail)	Historic-era Built Environment	Jellico Street	2021 (Angela Rothman, HNTB Corporation)	Outside
P-36-034958	HP37 (Highway/trail)	Historic-era Built Environment	Grandview Avenue	2021 (Leslie Schwab, HNTB Corporation)	Outside
P-36-061544	AP16 (Other, Isolate)	Precontact	Isolate 3	1991 (Kenneth M. Becker, RMW PALEO)	Outside
P-36-061545	AP16 (Other, Isolate)	Precontact	Isolate 2	1991 (Kenneth M. Becker, RMW PALEO)	Outside
P-36-061546	AP16 (Other, Isolate)	Precontact	Isolate 1	1991 (Kenneth M. Becker, RMW PALEO)	Outside
P-36-064361	AP02 (Lithic scatter)	Precontact	None	1999 (Antonina Delu, LSA)	Outside
P-36-064362	AP02 (Lithic scatter)	Precontact	None	1999 (Antonina Delu, LSA)	Outside
P-36-064363	AP02 (Lithic scatter)	Precontact	None	1999 (Antonina Delu, LSA)	Outside

Primary/Trinomial Number	Resource Attribute Code	Type	Other Name	Recorder and Year	Proximity to Project Area
P-36-064364	AP02 (Lithic scatter)	Precontact	None	1999 (Antonina Delu, LSA)	Outside
P-36-064365	AP02 (Lithic scatter)	Precontact	None	1999 (Antonina Delu, LSA)	Outside

4.2 Native American Heritage Commission

A request for a search of the Sacred Lands File (SLF) was submitted to the Native American Heritage Commission (NAHC) in Sacramento on June 5, 2024, to identify known sensitive or sacred Native American resources located within or near the Project Area. The NAHC maintains confidential records of sites and landscapes with traditional, cultural, or religious value to the Native American community. The SLF search results were received on June 20, 2024, and were negative (Appendix B). Additionally, the NAHC provided a list of fourteen contacts representing seven Native American Tribes that may have knowledge of additional cultural resources within or near the Project Area.

- Brandy Kendricks, Tribal Member Monitor, Kern Valley Indian Community
- Robert Robinson, Chairperson, Kern Valley Indian Community
- Robert Martin, Chairperson, Morongo Band of Mission Indians
- Ann Brierty, Tribal Historic Preservation Officer (THPO), Morongo Band of Mission Indians
- Jill McCormick, Historic Preservation Officer, Quechan Tribe of the Fort Yuma Reservation
- Manfred Scott, Acting Chairman – Kw'ts'an Cultural Committee, Quechan Tribe of the Fort Yuma Reservation
- Jordan Joaquin, President, Quechan Tribal Council, Quechan Tribe of the Fort Yuma Reservation
- Donna Yocum, Chairperson, San Fernando Band of Mission Indians
- Alexandra McCleary, Senior Manager of Cultural Resources Management, San Manuel Band of Mission Indians
- Mark Cochrane, Co-Chairperson, Serrano Nation of Mission Indians
- Wayne Walker, Co-Chairperson, Serrano Nation of Mission Indians
- Sarah O'Brien, Tribal Archivist, Twenty-Nine Palms Band of Mission Indians
- Nicholas Garza, Cultural Resources Specialist, Twenty-Nine Palms Band of Mission Indians
- Christopher Nicosia, Cultural Resources Manager/THPO Manager, Twenty-Nine Palms Band of Mission Indians

4.3 Built Environment Resources Directory (BERD) and Land Patents Search

A search of the Built Environment Resources Directory (BERD) was conducted on July 19, 2024, to identify historic-age built environment resources within 1.0 mile of the Project Area in Yermo, California. The BERD results also included built environment resources listed on the NRHP and CRHR. Two historic-era built environment resources were identified within the unincorporated community of Yermo:

1) California Historic Landmark (CHL) No. 939 Twentieth Century Folk Art Environments (Thematic)-Possum Trot location (now extant) (c. 1954), and

2) the Bismarck diggings site (aka Calico Ghost Town) (c. 1880).

The Twentieth Century Folk Art Environments-Possum Trot location has been evaluated for the NRHP twice and is a CHL. In 1981, it was given the status code of 1CL. A status code of 1CL means that it is a CHL numbered 770 and above numbered 770 and above, or an earlier CHL reheard by the State Historic Resources Commission and determined that it also meets CRHR criteria and is listed in the CRHR. Previously, in 1977, it was found to be 7N (needs to be revaluated; formerly coded as may become NRHP eligible with specific conditions). The Bismarck site (Calico CHL #72) is a SHL that has been evaluated for the NRHP and given the status code of 2S2 (found individually determined eligible for the NRHP by consensus through the Section 106 process and listed in the CRHP). Both historic-era built environment resources are outside of the Project Area.

In addition to the BERD search, the Bureau of Land Management (BLM) General Land Office (GLO) files and land patents were reviewed to determine the extent of past land use within the Project Area. A review of the BLM GLO patents revealed that a total of two land patents were issued within portions Township 9 North, Range 1 East, Section 2. On November 2, 1932, within Section 2, August Anthony Babst was granted 80 acres as part of the Homestead Entry Original (12 Stat. 392). On April 3rd, 1929, Thomas Francis Brewer purchased 160 acres of land within the SE ¼ of Section 2. GLO Survey plats for Township 9 North, Range 1 East, were also reviewed. Only one plat map, from June 4, 1856, covered Section 2; however, no structures or other information was depicted on the plat (USDI BLM 2024).

4.4 Historic Map and Aerial Imagery Review

Historic topographic maps for the proposed Project Area from 1954 depict the Union Pacific Railroad alignment on the southern boundary of the Project Area, and Yermo Road north of the Project Area. Additionally, residential development is depicted along Yermo Road, and Barstow Marine Base is depicted as being west of the Project Area. Topographic maps from 1957 depict increasing residential development within the area, primarily along Yermo Road, but the area remains mostly unchanged from the 1960s through the present. Aerial imagery corroborates this. A review of maps from 1952 shows the Project Area as undeveloped aside from the railroad and several road alignments, and the Barstow Marine Base to the west. Several houses are visible in aerial imagery from 1959, 1970 and 1975, but the area remains rural in character. Aerial imagery from 1983 indicates the area has remained mostly unchanged since then (NETROnline 2024).

4.5 Buried Site Sensitivity Assessment

The buried site sensitivity analysis was conducted to assess the potential for the Project to encounter unknown, subsurface archaeological resources. The buried site sensitivity analysis included a review of the geological sediments, disturbances, proximity of reliable sources of fresh water and known resources within and near the Project Area as identified by the records search and field survey.

Soils within the Project Area consist of very deep soils formed in alluvium from granitic and sedimentary rocks (SoilWeb 2024). Geology of the area is mapped as Holocene- to Pleistocene-age alluvium, unconsolidated semi-consolidated (California Department of Conservation 2015). Detailed maps of the Project Area depict the area as primarily Quaternary (Q) late- to middle Pleistocene-age alluvium, lake, playa, and terrace deposits (USGS 2024). Intact late- to middle Pleistocene-age and Holocene-age alluvial deposits have a moderate potential for containing buried archaeological deposits.

Topographic maps do not depict any seasonal fresh water sources within the Project Area, but do depict the Mojave River, located approximately 1.15 miles south of the Project Area. This proximity suggests a moderate potential for precontact and historic-era occupation in the area and a potential for buried cultural resources within the Project Area (USGS 2022).

Sixty-three cultural resources were identified within 0.5 mile of the Project Area during the records search. Of these, 49 consist of historic-era built environment resources; 10 are precontact-era cultural resources consisting of lithic scatters and isolated artifacts; 3 consist of historic-era resources including refuse scatters; and 1 multicomponent historic site with a built environment component consists of standing structures, foundations/pads, walls/terraces, machinery, and railroad alignment. These resources indicate that the vicinity of the Project was occupied in precontact and historic-era times and the Project Area may have potential to contain buried archaeological resources. No evidence of any cultural resources was observed within the Project Area during the pedestrian survey, however.

When considered together, these findings indicate that there is a moderate potential for buried archaeological resources to exist within undisturbed sediments of the Project Area and a low potential for intact deposits in areas of previous disturbances. Overall, there is a moderate to low possibility that as-yet undocumented, intact buried precontact- or historic-age archaeological resources are present within the Project Area.

5 Field Survey

5.1 Pedestrian Survey Methods

On August 1, 2024, Bargas archaeologists Marlen Hinojosa and Alexandria Hormozi conducted an intensive-level pedestrian survey of the Project Area. Survey methods and field practices met the Secretary of the Interior's Standards and Guidelines. The survey consisted of visual inspections of the Project Area in no greater than 15.0-meter linear transects across the entirety of the Project Area.

All data collected during the pedestrian survey was recorded using the ArcGIS Field Maps and Survey123 programs, and a sub-meter Global Positioning System (GPS) receiver. Overviews, field conditions, and results were photo-documented using a mobile device. All photographs and documentation are available at the Bargas office in Sacramento, California.

5.2 Pedestrian Survey Results

Terrain within the survey area consists of generally flat elevation with minimal topography. Minimal disturbance was observed, apart from some staged construction materials, including a push pile and dumped gravel. Ground surface visibility varied from 80 to 100 percent and was generally very good throughout the entirety of the survey area. Surrounding vegetation included creosote bush and dry grasses. Project Area conditions are illustrated in Figures 4 through 8. Observed mineral soils appeared to be entirely native and consisted of silty sand with sub angular and angular inclusions. No precontact- or historic-age cultural materials were observed within the Project Area during the current survey.



Figure 3. Overview of Northwest Portion of Project Area; View-Southwest



Figure 4. Overview of Northwest Portion of Project Area, Private/Inaccessible Property in Background; View Northwest



Figure 5. Push Pile/Construction Demo/Area of Disturbance; View South



Figure 6. Gravel Dump Area; View West



Figure 7. Overview of Project Area; View Southeast

6 Summary and Recommendations

Freepoint Eco-Systems Yermo Supply LLC proposes to build the Plastics Sorting and Processing Facility within 77.57 acres encompassing APN 0537-071-15, APN 0537-071-16, APN 0537-071-17, and APN 0537-071-19 in the unincorporated community of Yermo, San Bernardino County. This cultural resources assessment was undertaken to evaluate the potential for the proposed Project to impact known and unknown cultural resources. For this assessment, Bargas reviewed the results of the formal CHRIS records search of the SCCIC at California State University, Fullerton; reviewed the BERD listing; conducted a desktop review of historic maps, records, and aerial photographs; conducted a pedestrian survey of the Project Area; and conducted a buried site sensitivity assessment.

The records search identified 63 previously recorded resources within the 0.5-mile search radius, none of which are within or overlap the Project Area. The BERD search was negative for historic-age built environments within the Project Area.

The search of the SLF by the NAHC was positive for sensitive or sacred Native American resources.

On August 1, 2024, two qualified Bargas archaeologists conducted an intensive-level archaeological pedestrian survey of the entirety of the Project area. This survey identified no precontact or historic-era cultural resources were identified within the Project Area.

Bargas also conducted a buried site sensitivity analysis to assess the potential for buried archaeological deposits to exist within the Project Area. These findings indicate that there is a moderate potential for buried archaeological resources to exist within undisturbed sediments of the Project Area and a low potential for intact deposits in areas of previous disturbances. Overall, there is a moderate to low possibility that as-yet undocumented, intact buried precontact- or historic-age archaeological resources are present within the Project Area.

No previously recorded or new cultural resources were identified within the Project Area through this study. Additionally, the results of the desktop review and buried site sensitivity analysis indicate that the Project Area has a low to moderate potential for as-yet undocumented buried cultural resources deposits. However, the potential remains for Project activities to encounter unanticipated discoveries.

The following protocol should be followed in the event of an inadvertent discovery: If subsurface archaeological materials are encountered during construction, all work within 100 feet (30 meters) of the find shall be temporarily halted until the resource is recorded and evaluated. Construction activities may continue in other areas of the Project Area. If additional studies (i.e., test excavations) are needed to evaluate the California Register of Historical Resources (CRHR) eligibility of the find, a testing plan/research design shall be developed and implemented by the archaeological principal investigator (PI) in coordination with San Bernardino County and any consulting Native American tribes. No work shall occur within 100 feet (30 meters) of the resource until the resource has been fully evaluated. If the find is determined to be eligible to the CRHR, appropriate mitigation measures shall be developed and implemented by the archaeological PI, in coordination with the County and any consulting Native American tribes, to avoid or lessen significant impacts to the resource. The methods and results of the monitoring activities shall be documented in a final monitoring report with California Department of Parks and Recreation (DPR) 523 site records prepared for any identified resources and included in the report as a confidential appendix.

During ground disturbance activities, the discovery of human remains is always a possibility. California state law (California Health & Safety Code 7050.5 and PRC 5097.98) regulates specific procedures to be followed in the event human remains, modern or archaeological, are discovered in the state of California. Upon discovery of human remains, all work within a minimum of 200 feet of the find must cease immediately, and the county coroner must be notified. The appropriate land manager/owner of the property shall also be notified of the discovery. The coroner will notify the NAHC if the human remains are determined to be of Native American origin. The NAHC shall identify the most likely descendant (MLD) to be consulted regarding treatment and/or repatriation of the remains. The MLD shall be granted access to examine the remains and has 48 hours to provide recommendations for the treatment or reburial of the remains. If the MLD fails to make a recommendation within 48 hours of being granted access to the remains, the land manager/owner can rebury the remains in a location not subject to further disturbance.

7 References Cited

Bean, L.J. and F.C. Shipek

1978 Luiseño. *In Handbook of North American Indians, Volume 8: California*. Edited by R.F. Heizer, pp. 550-563. Smithsonian Institution, Washington, D.C.

Bean, Lowell J. and Charles R. Smith

1978 Serrano. In *Handbook of North American Indians, Volume 8, California*, pp. 570-574. Edited by Robert F. Heizer. Smithsonian Institution, Washington, D.C.

Bean, Lowell J. and Sylvia B. Vane

2002 The Native American Ethnography and Ethnohistory of Joshua Tree National Park: An Overview. Submitted by Cultural Systems Research, Inc. Submitted to the National Park Service.

California Department of Conservation

2016 California Geological Survey; Geologic Map of California https://maps.conservation.ca.gov/cgs/gmc/. Accessed July 19, 2024.

California State Parks

2024 Built Environment Resource Directory (BERD) for San Bernardino County. Office of Historic Preservation. Electronic Document, https://ohp.parks.ca.gov/?page_id=30338. Accessed July 19, 2024.

Campbell, Patrick

2018 "Agricultural Checkpoint Moved to Ease Traffic Delays," NBCUniversal Media, LLC. https://www.nbclosangeles.com/local/agriculture-checkpoint-moved-to-ease-traffic-delays/173352/. Accessed August 06, 2024.

Castillo, Edward D.

1978 The Impact of Euro-American Exploration and Settlement. *In Handbook of North American Indians, Volume 8, California*. Edited by R.F. Heizer, pp. 99-127. William C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Chartkoff, J. L. and K. K. Chartkoff

1988 *The Archaeology of California*. Stanford University Press, Stanford, California.

City of Barstow

n.d. Barstow, CA: City of Opportunity, Historical Attractions, Old Spanish Trail. https://www.barstowca.org/residents/about-barstow/history. Accessed January 21, 2022.

Cleland, Robert G.

1941 *The Cattle on a Thousand Hills: Southern California, 1850-1870*. Huntington Library, San Marino, California.

Encyclopedia Britannica
1998 "Barstow." Encyclopedia Britannica, Inc., https://www.britannica.com/place/Barstow. Accessed July 20, 1998.

Erlandson, Jon M.
1994 *Early Hunter-Gatherers of the California Coast*. Plenum Press, New York.

2012 A Land by the Sea: An Ocean View of California Archaeology. In *Contemporary Issues in California Archaeology*. Edited by Terry L. Jones and Jennifer E. Perry, pp. 21–48. Routledge, New York.

Feller, Walter
2023 "Yermo, California," Digital Desert: Mojave Desert. https://digital-desert.com/yermo-ca/. Accessed August 06, 2024.

Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell
2007 Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. In *California Prehistory: Colonization, Culture, and Complexity.* Edited by Terry L. Jones and Kathryn A. Klar, pp. 191–214. AltaMira Press, Walnut Creek, California.

Google Earth
2024 Aerial Imagery of Yermo. *Google Earth*. earth.google.com/web/. Accessed June 7, 2024.

Gudde, E. G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names.* Revised from first edition, 1949. University of California Press, Berkeley.

Gunther, Jane D.
1984 *Riverside County, California, Place Names: Their Origins and Their Stories*. Rubidoux Printing Company, Riverside, California.

Haenszel, Arda M., and Jennifer Reynolds
1975 *The Historic San Bernardino Mission District*. San Bernardino County Museum Association, Redlands, California.

Hearm, Joseph E.
1978 Archaeological-Historical Resources Assessment of Portions of Section 1, 2, and 11 (Township 9 North, Range 1 East), Yermo Quadrangle, Yermo, California. Prepared by the San Bernardino County Museum Association. On file with the SCCIC, Fullerton, California. S-00700.

Hoover, Mildred Brooke, Hero Eugene Rensch, Ethel Grace Rensch, and William N. Abeloe
2002 [1935] *Historic Spots in California*. Stanford University Press, Stanford, California.

Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington DC.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, Inc. New York.

NETROnline
2024 Historic Aerials. https://www.historicaerials.com/viewer. Accessed July 23, 2024.

Pourade, Richard
1961 *The History of San Diego: Time of the Bells. San Diego Historical Society.* http://www.sandiegohistory.org/books/pourade/time/timechapter9.htm . Accessed February 10, 2021.

Road Wanderer
2003 "All Trails Lead to Barstow," Route 66 in the Barstow Area. www.theroadwanderer.net/RT66barstow.htm

Robinson, W. W.
1948 *Land in California: The Story of Mission Lands, Ranchos, Squatters, Mining Claims, Railroad Grants, Land Scrip, Homesteads*. University of California Press, Berkeley.

SoilWeb
2024 Soil Survey Staff, Soil Resource Laboratory, Natural Resources Conservation Service, U.S. Department of Agriculture; SoilWeb app 2.0. https://www.nrcs.usda.gov/resources/data-and-reports/official-soil-series-descriptions-osd. Accessed July 19, 2024.

Steiner, Harold
1999 *The Old Spanish Trail Across the Mojave Desert*. The Haldor Press, pp. 230.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM)
2024 General Land Office Records. https://glorecords.blm.gov/default.aspx. Accessed on July 19, 2024.

U. S. Geological Survey (USGS)
2022 Historical Topographic TopoView. https://ngmdb.usgs.gov/topoview/viewer/#15/34.2193/-118.3744. Accessed June 3, 2024.

2024 The National Geologic Map Database MapView. https://ngmdb.usgs.gov/ngmdb/ ngmdb _home.html. Accessed June 7, 2024.
n.d. "Old Mormon Wagon Road," St. George Field Office, St. George, Utah. https://www.blm.gov/visit/old-mormon-wagon-road. Accessed on January 21, 2022.

Wedding, Jeffrey R.
2001 Cultural Resources Inventory for CA: Pipe Storage Yards Contractor Yards & Offloading Sites Issued for Supplemental Filing to Docket No. CP01-422-00, Addendum IV to: Cultural Resource Class I and Class III Investigations for the Proposed 2003 Kern River Expansion Project. Prepared for Williams Gas Pipeline. Prepared by the Harry Reid Center. On file with the SCCIC, Fullerton, California. S-00700.

Zigmond, Maurice
1986 Kawaiisu. In *Handbook of North American Indians, Volume 11, Great Basin*, pp. 398-411. Edited by Warren L. D'Azevedo. Smithsonian Institution, Washington, D.C.

8 Project Personnel

8.1 Field Personnel

Marlen Hinojosa, Senior Archaeologist
M.A., Applied Anthropology, California State University, San Bernardino (2023)
B.S., Anthropology, California Polytechnic University, Pomona (2018)
Years of Experience: 9

Alexandria Hormozi, Field Archaeologist
M.A., Anthropology, San Francisco State University, San Francisco (Current student)
B.S., Anthropology, University of La Verne, California (2019)
Years of Experience: 5

8.2 Report Authors

Lily Arias, Principal Investigator/QC Review
M.A., Cultural Resources Management, Sonoma State University (2016)
B.A., History; Minor in Anthropology; University of California, Los Angeles (2009)
Years of Experience: 14

Ashley Hallock, Senior Cultural Resources Specialist/Report Author
M.A., Anthropology, Washington State University, Pullman (2009)
B.A., Anthropology, Western Washington University, Bellingham (2006)
Years of Experience: 16

Appendix A

SCCIC Records Search Results (CONFIDENTIAL – DO NOT DISTRIBUTE)

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: 606.00 **IC FILE NO.:**

To: South Central Coastal Information Center

Print Name: Ari Hambley Date: 06/06/2024

Affiliation: Bargas Environmental Consulting

Address: 3604 Fair Oaks Blvd., Ste. 180

City: Sacramento State: CA Zip: 95864

Phone: (916) 993-9218 Fax: Email: ahambley@bargasconsulting.com

Billing Address (if different than above):

Billing Email: AP@Bargasconsulting.com Billing Phone: (510) 589-0467

Project Name / Reference: 1976-23 Yermo Plastics Recycling Facility

Project Street Address: APN 0537-071-15, 16, 17 and 19

County or Counties: San Bernardino

Township/Range/UTMs: T9N R1E Section 2

USGS 7.5' Quad(s): Yermo, CA (2021)

PRIORITY RESPONSE (Additional Fee): yes ☐ / no ■

TOTAL FEE NOT TO EXCEED: $ 800.00
(If blank, the Information Center will contact you if the fee is expected to exceed $1,000.00)

Special Instructions:

Please include data shapefiles or geodatabase files

Information Center Use Only

Date of CHRIS Data Provided for this Request:

Confidential Data Included in Response: yes ☐ / no ☐

Notes:

CHRIS Data Request Form

Mark the request form as needed. Attach a PDF of your project area (with the radius if applicable) mapped on a 7.5' USGS topographic quadrangle to scale 1:24000 ratio 1:1 neither enlarged nor reduced and include a shapefile of your project area, if available. Shapefiles are the current CHRIS standard for submitting digital spatial data for your project area or radius. **Check with the appropriate IC for current availability of digital data products.**

- Documents will be provided in PDF format. Paper copies will only be provided if PDFs are not available at the time of the request or under specially arranged circumstances.
- Location information will be provided as a digital map product (Custom Maps or GIS data) unless the area has not yet been digitized. In such circumstances, the IC may provide hand drawn maps.
- In addition to the $150/hr. staff time fee, client will be charged the Custom Map fee when GIS is required to complete the request [e.g., a map printout or map image/PDF is requested and no GIS Data is requested, or an electronic product is requested (derived from GIS data) but no mapping is requested].

For product fees, see the CHRIS IC Fee Structure on the OHP website.

1. Map Format Choice:

Select One: Custom GIS Maps ☐ GIS Data ☒ Custom GIS Maps **and** GIS Data ☐ No Maps ☐

Any selection below left unmarked will be considered a "no. "

Location Information:

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Locations	yes ☒ / no ☐	yes ☒ / no ☐
Report Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
"Other" Report Locations[2]	yes ☐ / no ☒	yes ☐ / no ☒

3. Database Information:
(contact the IC for product examples, or visit the SSJVIC website for examples)

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Database[1]		
List (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Detail (PDF format)	yes ☒ / no ☐	yes ☐ / no ☒
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Database		
List (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Detail (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Report Database[1]		
List (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Detail (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Include "Other" Reports [2]	yes ☐ / no ☒	yes ☐ / no ☒

4. Document PDFs (paper copy only upon request)**:**

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Records[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Records	yes ☒ / no ☐	yes ☒ / no ☐
Reports[1]	yes ☒ / no ☐	yes ☐ / no ☒
"Other" Reports[2]	yes ☐ / no ☒	yes ☐ / no ☒

CHRIS Data Request Form

5. Eligibility Listings and Documentation:

	Within project area	Within 0.5 mi. radius
OHP Built Environment Resources Directory[3]:		
Directory listing only (Excel format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒
OHP Archaeological Resources Directory[1,5]:		
Directory listing only (Excel format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒
***California Inventory of Historic Resources* (1976):**		
Directory listing only (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒

6. Additional Information:

The following sources of information may be available through the Information Center. However, several of these sources are now available on the OHP website and can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through these sources. Indicate below if the Information Center should review and provide documentation (if available) of any of the following sources as part of this request.

Caltrans Bridge Survey	yes ☐ / no ☒
Ethnographic Information	yes ☐ / no ☒
Historical Literature	yes ☐ / no ☒
Historical Maps	yes ☐ / no ☒
Local Inventories	yes ☐ / no ☒
GLO and/or Rancho Plat Maps	yes ☐ / no ☒
Shipwreck Inventory	yes ☐ / no ☒
Soil Survey Maps	yes ☐ / no ☒

---

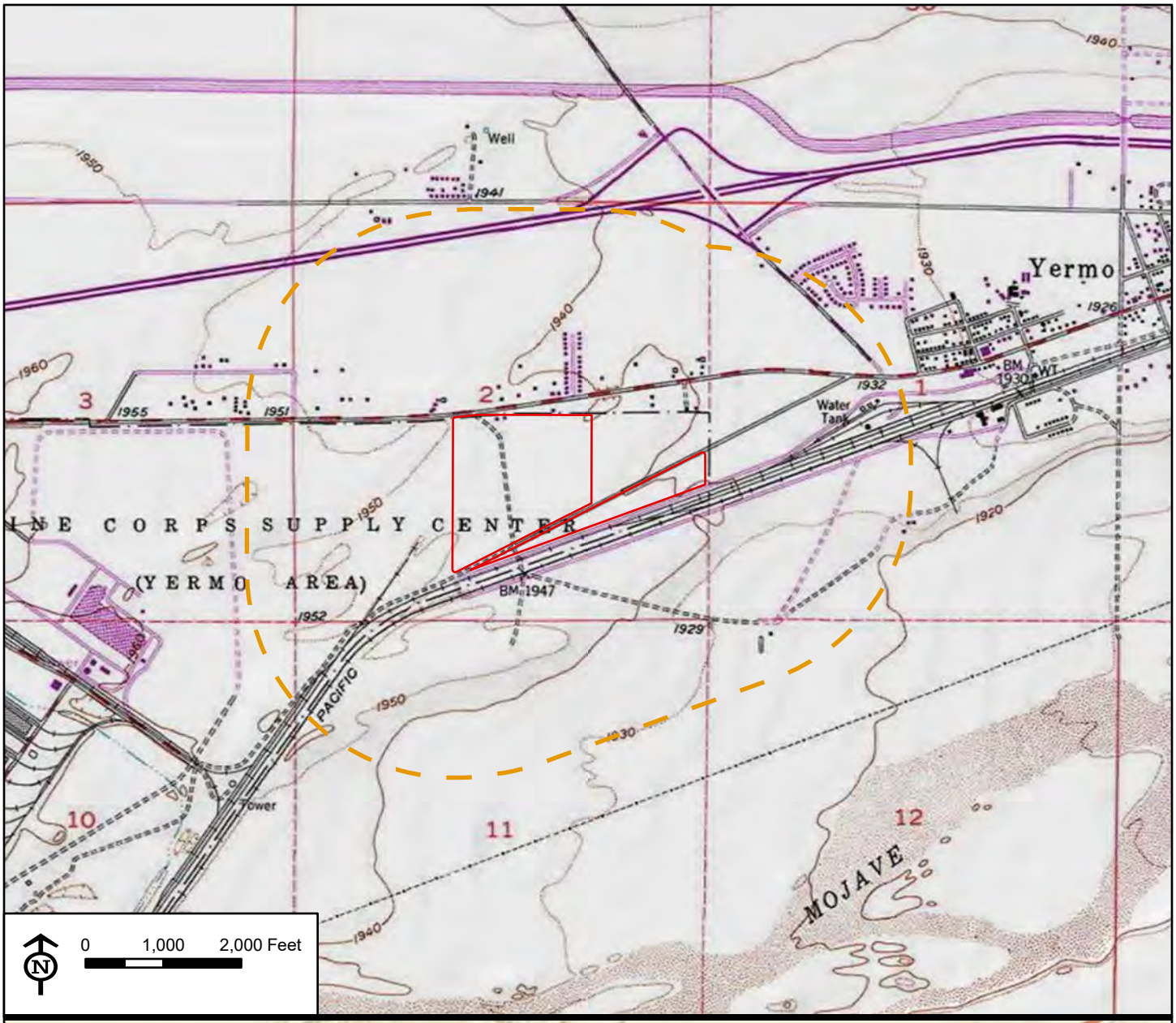
[1] In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User or Conditional User under an active CHRIS Access and Use Agreement.

[2] "Other" Reports GIS layer consists of report study areas for which the report content is almost entirely non-fieldwork related (e.g., local/regional history, or overview) and/or for which the presentation of the study area boundary may or may not add value to a record search.

[3] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Includes, but not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys. Previously known as the HRI and then as the HPD, it is now known as the Built Environment Resources Directory (BERD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

[4] Associated documentation will vary by resource. Contact the IC for further details.

[5] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Previously known as the Archaeological Determinations of Eligibility, now it is known as the Archaeological Resources Directory (ARD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.





Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map

Project Area

0.5-mile Buffer

BARGAS Environmental Consulting

Public Land Survey System (PLSS):
San Bernardino,Township 9N, Range 1E, Section 27

USGS Quad(s): Yermo (1971)

Project Site Coordinates: 116°50'36"W 34°53'52"N

Record Search

Freepoint Eco-Systems Plastics Recycling Feedstock Facility

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

7/19/2024 Records Search File No.: 26078.12118

Ari Hambley
Bargas Environmental Consulting
3604 Fair Oaks Blvd., Ste. 180
Sacramento, CA 95864

Re: Record Search Results for the 1976-23 Yermo Plastics Recycling Facility

The South Central Coastal Information Center received your records search request for the project area(s) referenced above, located on the Yermo, CA USGS 7.5' quadrangle(s). The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ shape files ☒ hand-drawn maps

Resources within project area: 0	None
Resources within ½-mile radius: 63	SEE ATTACHED MAP or LIST
Reports within project area: 2	SB-00700, SB-04212
Reports within ½-mile radius: 17	SEE ATTACHED MAP or LIST

Resource Database Printout (list): ☐ enclosed ☒ not requested ☐ nothing listed
Resource Database Printout (details): ☐ enclosed ☒ not requested ☐ nothing listed
Resource Digital Database (spreadsheet): ☒ enclosed ☐ not requested ☐ nothing listed
Report Database Printout (list): ☐ enclosed ☒ not requested ☐ nothing listed
Report Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed
Report Digital Database (spreadsheet): ☒ enclosed ☐ not requested ☐ nothing listed
Resource Record Copies: ☒ enclosed ☐ not requested ☐ nothing listed
Report Copies: ☒ enclosed ☐ not requested ☐ nothing listed
OHP Built Environment Resources Directory (BERD) 2022: ☒ available online; please go to https://ohp.parks.ca.gov/?page_id=30338
Archaeo Determinations of Eligibility 2022: ☐ enclosed ☒ not requested ☐ nothing listed
Los Angeles Historic-Cultural Monuments ☐ enclosed ☒ not requested ☐ nothing listed
San Bernardino Historical Maps: ☒ not available at SCCIC; please go to https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02
Ethnographic Information: ☒ not available at SCCIC

Historical Literature: ☒ not available at SCCIC
GLO and/or Rancho Plat Maps: ☒ not available at SCCIC
Caltrans Bridge Survey: ☒ not available at SCCIC; please go to http://www.dot.ca.gov/hq/structur/strmaint/historic.htm
Shipwreck Inventory: ☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp
Soil Survey Maps: (see below) ☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Isabela Kott
Assistant Coordinator, GIS Program Specialist

Enclosures:
(X) Custom Maps – 6 pages
(X) Resource Digital Database (spreadsheet) – 63 lines
(X) Report Database Printout (details) – 20 pages
(X) Report Digital Database (spreadsheet) – 19 lines
(X) Resource Record Copies – (all) 868 pages
(X) Report Copies – (project area only) 66 pages

ReportNum	DocAddlCitLetter	Status	OtherIDs	Xrefs	Authors	CitYear	CitMonth	CitTitle	CitPublisher	CitPages	CitMaps	ReportType	InventorySize	InventoryDisclosure	InventoryCollections	InventoryNotes	Resources	ResourceCount	HasInformals	Counties	Maps	Address	PLSS
SB-00078			NADB-R - 1060078; Voided - 67-0.1		WALKER, CLIFFORD	1967		LIFE AND ADVENTURE ALONG THE MOJAVE RIVER TRAIL	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION QUARTERLY 15 (1):1-31							[NADB Keywords: HISTORIC; CULTURAL HISTORY; TRANSPORTATION; TRAIL; MOJAVE DESERT; MOJAVE RIVER; TRANSVERSE RANGES; SAN GABRIEL MOUNTAINS; 19TH CENTURY AD; FORT IRWIN ARMY BASE]	36-003033, 36-004272, 36-004411	3	No	San Bernardino	Alvord Mountain (15), Avawatz Pass (15), Baker (15), Barstow (15), Cady Mountains (15), Cajon, Cave Mountain (15), Daggett (15), Harvard Hill, Hawes (15), Hesperia, Homer Mountain (15), Kelso (15), Lanfair Valley (15), Manix, Mid Hills (15), Old Dad Mountain (15), Red Pass Lake (15), Shoshone (15), Silurian Hills (15), Silverwood Lake, Soda Lake (15), Tecopa (15), Victorville (15)		
SB-00700			NADB-R - 1060700; Voided - 78-11.3		Hearn, Joseph E.	1978		Archaeological-Historical Resources Assessment of Portions of Section 1, 2 and 11 (Township 9 North, Range 1 East) Yermo Quadrangle, Yermo, California	San Bernardino County Museum Association	10		Archaeological, Field study		Not/or publicaton	No	[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]		0	No	San Bernardino	Yermo		
SB-01820			NADB-R - 1061820; Voided - 88-7.11		PEAK & ASSOCIATES, INC.	1988		CULTURAL RESOURCE SURVEY AND CLEARANCE FOR RE-ROUTED PORTIONS OF THE PROPOSED AMERICAN TELEPHONE AND TELEGRAPH LAS VEGAS TO SAN BERNARDINO FIBEROPTICS COMMUNICATION ROUTE	PEAK & ASSOCIATES, INC.							[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; LITHIC QUARRY; STONE CIRCLES; STONE CAIRN; BRIDGE; ELECTRICAL TRANSMISSION POWER LINE; FLAKED LITHICS; CHALCEDONY; GLASS BOTTLES; MOJAVE DESERT; SODA LAKE; LAKE MOJAVE; MOJAVE RIVER; TROY LAKE; LAKE MANIX]	36-000223	1	No	San Bernardino	Alvord Mountain (15), Apple Valley North, Baker (15), Barstow, Barstow SE, Cave Mountain (15), Daggett, Harvard Hill, Hesperia, Manix, Nebo, Stoddard Well, Victorville, Yermo		
SB-02449			NADB-R - 1062449; Voided - 91-8.6		BISSELL, RONALD M. and KENNETH M. BECKER	1991		CULTURAL RESOURCES RECONNAISSANCE OF 12.1 ACRES AND TEST EXCAVATION OF A SMALL ARCHAEOLOGICAL SITE NEAR YERMO, SAN BERNARDINO COUNTY, CALIFORNIA	RMW PALEO ASSOCIATES							[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; LITHIC SCATTER; REFUSE DISPOSAL SITES; FLAKED LITHICS; CHERT; JASPER; CHALCEDONY; TINNED CANS; GLASS BOTTLES; CERAMICS; METAL HARDWARE; MOJAVE DESERT; MOJAVE RIVER]	36-007029	1	No	San Bernardino	Yermo		
SB-02458			NADB-R - 1062458; Voided - 91-9.8		SHINN, JUANITA R.	1991		ADDENDUM TO: CULTURAL RESOURCES RECONNAISSANCE OF 12.1 ACRES AND TEST EXCAVATION OF A SMALL ARCHAEOLOGICAL SITE NEAR YERMO, SAN BERNARDINO COUNTY, CALIFORNIA, DATED 22 AUGUST 1991	RMW PALEO ASSOCIATES							[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL MONITORING REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]		0	No	San Bernardino	Yermo		
SB-02987			NADB-R - 1062987		BROCK, JAMES	1994		A CULTURAL RESOURCE ASSESSMENT FOR TWO MONITORING WELL LOCATIONS NEAR YERMO, SAN BERNARDINO COUNTY, CA	ARCHAEOLOGICAL ADVISORY GROUP				3.25 ACRES			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; TINNED CANS; MOJAVE DESERT; PREHISTORIC; MCLB]		0	No	San Bernardino	Yermo		
SB-02989			NADB-R - 1062989		MCKENNA, JEANETTE A.	1994		A REPORT ON CULTURAL RESOURCES INVESTIGATIONS AT THE PROPOSED LOCATIONS OF WELL SITES ASSOCIATED WITH THE NAVY "CLEAN" PROGRAM , YERMO, CA	MCKENNA ET AL				20 ACRES			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES; MCLB]		0	No	San Bernardino	Yermo		
SB-03028			NADB-R - 1063028		MCKENNA, JEANETTE A.	1995		COMPLETION OF ARCHAEOLOGICAL INVESTIGATIONS AT THE YERMO & NEBO WELL SITES (P.O. NO. 01-F298-YB-P95-0111)	MCKENNA ET AL				4 ACRES			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES]		0	No	San Bernardino	Daggett, Yermo		
SB-03519			NADB-R - 1063519		MANLEY, WILLIAM	1996		CULTURAL RESOURCES INVENTORY SURVEY MARINE CORPS LOGISTICS BASE, BARSTOW, CA. 64PP	WM MANLEY CONSULTING				5700 ACRES			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; ARCHITECTURAL HISTORY REPORT; HISTORIC; PREHISTORIC; ROCK ART; PETROGLYPHS; MILITARY SITE; STRUCTURES; LITHIC SCATTER; STONE CIRCLES; WELL; MACHINERY; FLAKES; CORES; CHERT; GLASS; EARTHENWARE; METAL; DEBITAGE; JASPER; BIFACE; FLAKE TOOL; CORE TOOL; MOJAVE DESERT; MOJAVE RIVER; CPHI-SBR-40]	36-000073, 36-003819, 36-008317	3	No	San Bernardino	Minneola, Nebo, Yermo		
SB-03522			NADB-R - 1063522		STRUDWICK, IVAN	1999		CULTURAL RESOURCES INVESTIGATION OF FOUR TEST BORINGS ADJACENT TO THE YERMO ANNEX MARINE CORPS LOGISTICS BASE, BARSTOW, CA. 11PP	LSA				1 ACRE			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]		0	No	San Bernardino	Yermo		
SB-04212			NADB-R - 1064212		WEDDING, JEFFREY R.	2001		CULTURAL RESOURCES INVENTORY FOR CA- PIPE STORAGE YARDS CONTRACTOR YARDS & OFFLOADING SITES ISSUED FOR SUPPLEMENTAL FILING TO DOCKET NO. CP01-422-00, ADDENDUM IV to: Cultural Resource Class I and Class III Investigations For The Proposed 2003 Kern River Expansion Project, California	HARRY REID CENTER	56		Archaeological, Field study	163 ACRES	Not/or publicaton	No	[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; HISTORIC; RAILROAD; ROAD; REFUSE DISPOSAL SITE; AIRPORT; BUILDINGS; GLASS; CROWN CAP; CAN; ZIPPER; METAL BUTTON; PLATE; BOWL; CUP; GRAVY BOAT; BURNT BONE; WIRE HANGAR; BATTERY CORE; TAPE DISPENSER; ASH TRAY; AUTO PARTS; MOJAVE DESERT; CA-KER-3369H; AD 1930-PRESENT]	36-001910, 36-002910, 36-010627, 36-010628, 36-010629, 36-010630	6	No	San Bernardino	Barstow SE, Minneola, Yermo		
SB-04213			NADB-R - 1064213		SCHMIDT, JAMES J.	2000		BUG 33kV TRANSMISSION LINE, SAN BERNARDINO COUNTY. 5PP	COMPASS ROSE	5		Archaeological, Architectural-Historical, Field study	<10 ACRES	Not/or publicaton	No	[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; HISTORIC; HOMESTEAD; CANAL; STORAGE BIN; STRUCTURAL SITE; FOOD PROCESSING SITE; LITHIC REDUCTION SITE; PREHISTORIC; FLAKES; DEBITAGE; GLASS; METAL; MOJAVE DESERT]	36-003427, 36-005066	2	No	San Bernardino	Minneola, Nebo, Yermo		
SB-04465			NADB-R - 1064465		SCHMIDT, JAMES J.	2004		GREER 12KV DISTRIBUTION LINE IN THE YERMO ARE, SAN BERNARDINO COUNTY. 3PP	COMPASS ROSE				0.25 ACRES			[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES]		0	No	San Bernardino	Yermo		
SB-04561			NADB-R - 1064561		MANLEY, WILLIAM R.	1999		COLD WAR ERA HISTORIC RESOURCES ELIGIBILITY SURVEY, MCLB BARSTOW, CA. 57PP	WILLIAM MANLEY CONSULTING							[NADB Keywords: ARCHITECTURAL EVALUATION REPORT; HISTORIC; MILITARY BUILDINGS; STORAGE TANKS; LANDSCAPING; WAREHOUSE; AUTO REPAIR FAILITY; MOJAVE DESERT]		0	No	San Bernardino	Daggett, Minneola, Nebo, Yermo		
SB-06881					Heidelberg, Kurt	2009		Archaeological Survey Report For Southern California Edison's Service Pole Replacement on the Mule Canyon 12kV Transmission Line in Yermo, San Bernardino County, California	AECOM	8		Archaeological, Field study		Not/or publicaton	No			0	No	San Bernardino	Yermo		
SB-06896					Heidelberg, Kurt	2009		Archaeological Survey Report For Southern California Edison's Service Pole Replacements in and Near Barstow, San Bernardino County, California	AECOM									0	No	San Bernardino			
SB-07518					Glentis, Dionisios	2013		Grid Reliability and Maintenance (GRM) Program – 2014 DPM:O WCR Mule Canyon 12kV o/o Yermo Substation Project (TD 705946), Yermo, San Bernardino County, California	Southern California Edison								36-026925	1	No	San Bernardino			
SB-07960					Self, William	2010		Class III Cultural Resources Survey Addendum for the Proposed Calnev Expansion Project, California Portion San Bernadino County, California	William Self Associates, Inc.	314		Archaeological, Architectural-Historical, Field study		Not/or publicaton	No	Of the 52 resources associated with this study 37 were assigned primary numbers, 12 resources have temporary field numbers and 3 "pending" numbers were voided.	36-000827, 36-000828, 36-003731, 36-005351, 36-006109, 36-006117, 36-006506, 36-006693, 36-006699, 36-006708, 36-007091, 36-007309, 36-007371, 36-008127, 39-000131, 39-000133, 39-008544, 36-008857, 36-010148, 36-010317, 36-012335, 36-013632, 37 36-015497, 36-020321, 36-020324, 36-020325, 36-020326, 36-020327, 36-020328, 36-020329, 36-020330, 36-020659, 36-022660, 36-022661, 36-022662, 36-022663, 36-022664	37	No	San Bernardino	Adelanto, Alvord Mountain East, Baker, Baldy Mesa, Barstow SE, Cajon, Cave Mountain, Cronese Lakes, Daggett, Devore, Dunn, Fontana, Halloran Springs, Harvard Hill, Helendale, Hodge, Ivanpah Lake, Manix, Mescal Range, Mineral Hill, Minneola, Nebo, San Bernardino North, San Bernardino South, Soda Lake North, Solomons Knob, Turquoise Mountain, Turtle Valley, Valley Wells, Victorville, Victorville NW, West of Soda Lake, Yermo		
SB-08196			Paleo -		McKenna, Jeanette A. and Robin Laska	2016		A CULTURAL RESOURCES INVESTIGATION OF THE PROPOSED YERMO WATER SYSTEM PIPELINE INSTALLATION/REPLACEMENT PROJECT, YERMO, SAN BERNARDINO COUNTY, CALIFORNIA	McKENNA et al.	136		Archaeological, Architectural-Historical, Field study		Not/or publicaton	No		36-001910, 36-003033, 36-010628, 36-021629, 36-029386	5	No	San Bernardino	Yermo	Yermo	

Report Detail: SB-00078

Identifiers

Report No.: SB-00078

Other IDs:

Type	*Name*
NADB-R	1060078
Voided	67-0.1

Cross-refs:

Citation information

Author(s): WALKER, CLIFFORD

Year: 1967

Title: LIFE AND ADVENTURE ALONG THE MOJAVE RIVER TRAIL

Affliliation: SAN BERNARDINO COUNTY MUSEUM ASSOCIATION QUARTERLY 15 (1):1-31

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes

[NADB Keywords: HISTORIC; CULTURAL HISTORY; TRANSPORTATION; TRAIL; MOJAVE DESERT; MOJAVE RIVER; TRANSVERSE RANGES; SAN GABRIEL MOUNTAINS; 19TH CENTURY AD; FORT IRWIN ARMY BASE]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-003033	CA-SBR-003033H	The Mojave Trail; Old Mojave Ro
P-36-004272	CA-SBR-004272H	Old Spanish Trail; Salt Lake - Sa
P-36-004411	CA-SBR-004411H	The Mormon Trail, Mormon Roa

No. resources: 3

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Alvord Mountain (15'), Avawatz Pass (15'), Baker (15'), Barstow (15'), Cady Mountains (15'), Cajon, Cave Mountain (15'), Daggett (15'), Harvard Hill, Hawes (15'), Hesperia, Homer Mountain (15'), Kelso (15'), Lanfair Valley (15'), Manix, Mid Hills (15'), Old Dad Mountain (15'), Red Pass Lake (15'), Shoshone (15'), Silurian Hills (15'), Silverwood Lake, Soda Lake (15'), Tecopa (15'), Victorville (15')

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-00700

Identifiers

Report No.: SB-00700

Other IDs:	*Type*	*Name*
	NADB-R	1060700
	Voided	78-11.3

Cross-refs:

Citation information

Author(s): Hearn, Joseph E.

Year: 1978

Title: Archaeological-Historical Resources Assessment of Portions of Section 1, 2 and 11 (Township 9 North, Range 1 East) Yermo Quadrangle, Yermo, California

Affliliation: San Bernardino County Museum Association

No. pages: 10

No. maps:

Attributes: Archaeological, Field study

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]

Associated resources

No. resources: 0

Has informals: No

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:	2/22/2024	aswitals

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database
	2/22/2024	aswitals	A.S.

Record status: Database Complete

Report Detail: SB-01820

Identifiers

Report No.: SB-01820

Other IDs:

Type	*Name*
NADB-R	1061820
Voided	88-7.11

Cross-refs:

Citation information

Author(s): PEAK & ASSOCIATES, INC.

Year: 1988

Title: CULTURAL RESOURCE SURVEY AND CLEARANCE FOR RE-ROUTED PORTIONS OF THE PROPOSED AMERICAN TELEPHONE AND TELEGRAPH LAS VEGAS TO SAN BERNARDINO FIBEROPTICS COMMUNICATION ROUTE

Affliliation: PEAK & ASSOCIATES, INC.

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes

[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; LITHIC QUARRY; STONE CIRCLES; STONE CAIRN; BRIDGE; ELECTRICAL TRANSMISSION POWER LINE; FLAKED LITHICS; CHALCEDONY; GLASS BOTTLES; MOJAVE DESERT; SODA LAKE; LAKE MOJAVE; MOJAVE RIVER; TROY LAKE; LAKE MANIX]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-000223	CA-SBR-000223/H	Gravel Bar Site, Manix Beach

No. resources: 1

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Alvord Mountain (15'), Apple Valley North, Baker (15'), Barstow, Barstow SE, Cave Mountain (15'), Daggett, Harvard Hill, Hesperia, Manix, Nebo, Stoddard Well, Victorville, Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-02449

Identifiers

Report No.: SB-02449

Other IDs:	*Type*	*Name*
	NADB-R	1062449
	Voided	91-8.6

Cross-refs:

Citation information

Author(s): BISSELL, RONALD M. and KENNETH M. BECKER

Year: 1991

Title: CULTURAL RESOURCES RECONNAISSANCE OF 12.1 ACRES AND TEST EXCAVATION OF A SMALL ARCHAEOLOGICAL SITE NEAR YERMO, SAN BERNARDINO COUNTY, CALIFORNIA

Affliliation: RMW PALEO ASSOCIATES

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes

[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL RECONNAISSANCE REPORT; LITHIC SCATTER; REFUSE DISPOSAL SITES; FLAKED LITHICS; CHERT; JASPER; CHALCEDONY; TINNED CANS; GLASS BOTTLES; CERAMICS; METAL HARDWARE; MOJAVE DESERT; MOJAVE RIVER]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-007029	CA-SBR-007029	Yermo-1

No. resources: 1

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-02458

Identifiers

Report No.: SB-02458

Other IDs:	*Type*	*Name*
	NADB-R	1062458
	Voided	91-9.8

Cross-refs:

Citation information

Author(s): SHINN, JUANITA R.

Year: 1991

Title: ADDENDUM TO: CULTURAL RESOURCES RECONNAISSANCE OF 12.1 ACRES AND TEST EXCAVATION OF A SMALL ARCHAEOLOGICAL SITE NEAR YERMO, SAN BERNARDINO COUNTY, CALIFORNIA, DATED 22 AUGUST 1991

Affliliation: RMW PALEO ASSOCIATES

No. pages:

No. maps:

Attributes:

Inventory size:

Disclosure:

Collections:

General notes

[NADB Keywords: PREHISTORIC; HISTORIC; ARCHAEOLOGICAL MONITORING REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-02987

Identifiers

Report No.: SB-02987

Other IDs:

Type	*Name*
NADB-R	1062987

Cross-refs:

Citation information

Author(s): BROCK, JAMES

Year: 1994

Title: A CULTURAL RESOURCE ASSESSMENT FOR TWO MONITORING WELL LOCATIONS NEAR YERMO, SAN BERNARDINO COUNTY, CA

Affliliation: ARCHAEOLOGICAL ADVISORY GROUP

No. pages:

No. maps:

Attributes:

Inventory size: 3.25 ACRES

Disclosure:

Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; TINNED CANS; MOJAVE DESERT; PREHISTORIC; MCLB]

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-02989

Identifiers

Report No.: SB-02989

Other IDs:	*Type*	*Name*
	NADB-R	1062989

Cross-refs:

Citation information

Author(s): MCKENNA, JEANETTE A.
Year: 1994
Title: A REPORT ON CULTURAL RESOURCES INVESTIGATIONS AT THE PROPOSED LOCATIONS OF WELL SITES ASSOCIATED WITH THE NAVY "CLEAN" PROGRAM, YERMO, CA
Affliliation: MCKENNA ET AL
No. pages:
No. maps:
Attributes:
Inventory size: 20 ACRES
Disclosure:
Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES; MCLB]

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-03028

Identifiers

Report No.: SB-03028

Other IDs:

Type	*Name*
NADB-R	1063028

Cross-refs:

Citation information

Author(s): MCKENNA, JEANETTE A.

Year: 1995

Title: COMPLETION OF ARCHAEOLOGICAL INVESTIGATIONS AT THE YERMO & NEBO WELL SITES (P.O. NO. 01-F298-YB-P95-0111)

Affliliation: MCKENNA ET AL

No. pages:

No. maps:

Attributes:

Inventory size: 4 ACRES

Disclosure:

Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES]

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Daggett, Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-03519

Identifiers

Report No.: SB-03519

Other IDs:

Type	*Name*
NADB-R	1063519

Cross-refs:

Citation information

Author(s): MANLEY, WILLIAM
Year: 1996
Title: CULTURAL RESOURCES INVENTORY SURVEY MARINE CORPS LOGISTICS BASE, BARSTOW, CA. 64PP
Affliliation: WM MANLEY CONSULTING
No. pages:
No. maps:
Attributes:
Inventory size: 5700 ACRES
Disclosure:
Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; ARCHITECTURAL HISTORY REPORT; HISTORIC; PREHISTORIC; ROCK ART; PETROGLYPHS; MILITARY SITE; STRUCTURES; LITHIC SCATTER; STONE CIRCLES; WELL; MACHINERY; FLAKES; CORES; CHERT; GLASS; EARTHENWARE; METAL; DEBITAGE; JASPER; BIFACE; FLAKE TOOL; CORE TOOL; MOJAVE DESERT; MOJAVE RIVER; CPHI-SBR-40]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-000073	CA-SBR-000073	Rattlesnake Rock Petroglyphs,
P-36-003819	CA-SBR-003819	DH-116
P-36-008317	CA-SBR-008317	MCLBB-1

No. resources: 3
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Minneola, Nebo, Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-03522

Identifiers

Report No.: SB-03522

Other IDs:

Type	*Name*
NADB-R	1063522

Cross-refs:

Citation information

Author(s): STRUDWICK, IVAN

Year: 1999

Title: CULTURAL RESOURCES INVESTIGATION OF FOUR TEST BORINGS ADJACENT TO THE YERMO ANNEX MARINE CORPS LOGISTICS BASE, BARSTOW, CA. 11PP

Affliliation: LSA

No. pages:

No. maps:

Attributes:

Inventory size: 1 ACRE

Disclosure:

Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; MOJAVE RIVER; NO RESOURCES]

Associated resources

No. resources: 0

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-04212

Identifiers

Report No.: SB-04212

Other IDs:	*Type*	*Name*
	NADB-R	1064212

Cross-refs:

Citation information

Author(s): WEDDING, JEFFREY R.

Year: 2001

Title: CULTURAL RESOURCES INVENTORY FOR CA: PIPE STORAGE YARDS CONTRACTOR YARDS & OFFLOADING SITES ISSUED FOR SUPPLEMENTAL FILING TO DOCKET NO. CP01-422-00, ADDENDUM IV to: Cultural Resource Class I and Class III Investigations For The Proposed 2003 Kern River Expansion Project, California

Affliliation: HARRY REID CENTER

No. pages: 56

No. maps:

Attributes: Archaeological, Field study

Inventory size: 163 ACRES

Disclosure: Not for publication

Collections: No

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; HISTORIC; RAILROAD; ROAD; REFUSE DISPOSAL SITE; AIRPORT; BUILDINGS; GLASS; CROWN CAP; CAN; ZIPPER; METAL BUTTON; PLATE; BOWL; CUP; GRAVY BOAT; BURNT BONE; WIRE HANGAR; BATTERY CORE; TAPE DISPENSER; ASH TRAY; AUTO PARTS; MOJAVE DESERT; CA-KER-3366H; AD 1930-PRESENT]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-001910	CA-SBR-001910H	Union Pacific Railroad: Dagget t
P-36-002910	CA-SBR-002910H	National Old Trails Highway; Hist
P-36-010627	CA-SBR-010627H	Barstow-Daggett Airport Flight St
P-36-010628	CA-SBR-010628H	Yermo Railroad Roundhouse Ind
P-36-010629	CA-SBR-010629H	HRC 11-09-01.2
P-36-010630	CA-SBR-010630H	HRC 11-20-01.1

No. resources: 6

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Barstow SE, Minneola, Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:	2/14/2019	ikott

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database

Record status: Database Complete

Report Detail: SB-04213

Identifiers

Report No.: SB-04213

Other IDs:	*Type*	*Name*
	NADB-R	1064213

Cross-refs:

Citation information

Author(s): SCHMIDT, JAMES J.
Year: 2000
Title: BUG 33kV TRANSMISSION LINE, SAN BERNARDINO COUNTY. 5PP
Affliliation: COMPASS ROSE
No. pages: 5
No. maps:
Attributes: Archaeological, Architectural/Historical, Field study
Inventory size: <10 ACRES
Disclosure: Not for publication
Collections: No

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; HISTORIC; HOMESTEAD; CANAL; STORAGE BIN; STRUCTURAL SITE; FOOD PROCESSING SITE; LITHIC REDUCTION SITE; PREHISTORIC; FLAKES; DEBITAGE; GLASS; METAL; MOJAVE DESERT]

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-003427	CA-SBR-003427	Daggett Solar Site
P-36-005066	CA-SBR-005066	Coolwater Coal Site

No. resources: 2
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Minneola, Nebo, Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:	9/6/2017	ikott

IC actions:	*Date*	*User*	*Action taken*
	7/18/2014	jay	Appended record from NADB database

Record status: Database Complete

Report Detail: SB-04465

Identifiers

Report No.: SB-04465

Other IDs:

Type	*Name*
NADB-R	1064465

Cross-refs:

Citation information

Author(s): SCHMIDT, JAMES J.
Year: 2004
Title: GREER 12KV DISTRIBUTION LINE IN THE YERMO ARE, SAN BERNARDINO COUNTY. 3PP
Affliliation: COMPASS ROSE
No. pages:
No. maps:
Attributes:
Inventory size: 0.25 ACRES
Disclosure:
Collections:

General notes

[NADB Keywords: ARCHAEOLOGICAL RECONNAISSANCE REPORT; MOJAVE DESERT; NO RESOURCES]

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-04561

Identifiers

Report No.: SB-04561

Other IDs:

Type	*Name*
NADB-R	1064561

Cross-refs:

Citation information

Author(s): MANLEY, WILLIAM R.
Year: 1999
Title: COLD WAR ERA HISTORIC RESOURCES ELIGIBILITY SURVEY, MCLB BARSTOW, CA. 57PP
Affliliation: WILLIAM MANLEY CONSULTING
No. pages:
No. maps:
Attributes:
Inventory size:
Disclosure:
Collections:

General notes

[NADB Keywords: ARCHITECTURAL EVALUATION REPORT; HISTORIC; MILITARY BUILDINGS; STORAGE TANKS; LANDSCAPING; WAREHOUSE; AUTO REPAIR FAILITY; MOJAVE DESERT]

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Daggett, Minneola, Nebo, Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/18/2014	jay
Last modified:		

IC actions:

Date	*User*	*Action taken*
7/18/2014	jay	Appended record from NADB database

Record status:

Report Detail: SB-06881

Identifiers

Report No.: SB-06881
Other IDs:
Cross-refs:

Citation information

Author(s): Heidelberg, Kurt
Year: 2009
Title: Archaeological Survey Report For Southern California Edison's Service Pole Replacement on the Mule Canyon 12kV Transmission Line in Yermo, San Bernardino County, California
Affliliation: AECOM
No. pages: 8
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s): Yermo
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/22/2014	jay
Last modified:	7/18/2024	ikott

IC actions:	*Date*	*User*	*Action taken*
	7/22/2014	jay	Added placeholder record (no info in NADB, SBAIC_REPORTS, or Word bibliography)

Record status: Database Complete

Report Detail: SB-06896

Identifiers

Report No.: SB-06896
Other IDs:
Cross-refs:

Citation information

Author(s): Heidelberg, Kurt
Year: 2009
Title: Archaeological Survey Report For Southern California Edison's Service Pole Replacements In and Near Barstow, San Bernardino County, California
Affliliation: AECOM
No. pages:
No. maps:
Attributes:
Inventory size:
Disclosure:
Collections:

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s):
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/22/2014	jay
Last modified:	2/27/2018	ikott

IC actions:	*Date*	*User*	*Action taken*
	7/22/2014	jay	Added placeholder record (no info in NADB, SBAIC_REPORTS, or Word bibliography)

Record status:

Report Detail: SB-07518

Identifiers

Report No.: SB-07518
Other IDs:
Cross-refs:

Citation information

Author(s): Glentis, Dionisios
Year: 2013
Title: Grid Reliability and Maintenance (GRM) Program – 2014 DPMO WCR Mule Canyon 12kV o/o Yermo Substation Project (TD 705946), Yermo, San Bernardino County, California
Affliliation: Southern California Edison
No. pages:
No. maps:
Attributes:
Inventory size:
Disclosure:
Collections:

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-026925		TC705946_CanScatter

No. resources: 1
Has informals:

Location information

County(ies): San Bernardino
USGS quad(s):
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/22/2014	jay
Last modified:	2/27/2018	ikott

IC actions:	*Date*	*User*	*Action taken*
	7/22/2014	jay	Added placeholder record (no info in NADB, SBAIC_REPORTS, or Word bibliography)

Record status:

Report Detail: SB-07960

Identifiers

Report No.: SB-07960
Other IDs:
Cross-refs:

Citation information

Author(s): Self, William
Year: 2010
Title: Class III Cultural Resources Survey Addendum for the Proposed Calnev Expansion Project, California Portion San Bernadino County, California
Affliliation: William Self Associates, Inc.
No. pages: 314
No. maps:
Attributes: Archaeological, Architectural/Historical, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Of the 52 resources associated with this study 37 were assigned primary numbers, 12 resources have temporary field numbers and 3 "pending" numbers were voided.

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-000827	CA-SBR-000827	99 "F"; SBCM-99F
P-36-000828	CA-SBR-000828	99 "H"; SBCM-99H
P-36-003731	CA-SBR-003731	Midway
P-36-005351	CA-SBR-005351	84-9
P-36-006109	CA-SBR-006109H	"Old Zanja Irrigation Ditch"
P-36-006117	CA-SBR-006117	
P-36-006506	CA-SBR-006506	
P-36-006693	CA-SBR-006693H	Atchison, Topeka & Santa Fe Ra
P-36-006699	CA-SBR-006699H	Fontana Powerhouse
P-36-006708	CA-SBR-006708H	PEL89-16
P-36-007091	CA-SBR-007091H	CP-22-HS
P-36-007309	CA-SBR-007309	
P-36-007371	CA-SBR-007371	
P-36-008127	CA-SBR-008127	
P-36-008131	CA-SBR-008131H	
P-36-008133	CA-SBR-008133H	CAJON CULVERT-01
P-36-008544	CA-SBR-008544H	96-6-3
P-36-008857	CA-SBR-008857H	So. Sierras Power Line; Lytle Ca
P-36-010148	CA-SBR-010148H	SLCS-S-22
P-36-010317	CA-SBR-010317H	Barstow to Victorville 33kV Tran
P-36-012335		Barstow-to-Bracken Dig Site 1
P-36-013632	CA-SBR-012618H	
P-36-015497		Base Line Road
P-36-020321		Wilkens House
P-36-020324		18560 & 18560 1/2 Slover Avenu
P-36-020325		Houchens House
P-36-020326		Guthrie House
P-36-020327		Walker House
P-36-020328		Walker House
P-36-020329		Snow House
P-36-020330		Tuller House
P-36-022659	CA-SBR-014423H	WSA-PF-03
P-36-022660	CA-SBR-014424H	WSA-PF-04
P-36-022661	CA-SBR-014425H	WSA-PF-05

Report Detail: SB-07960

	P-36-022662	CA-SBR-014426H	WSA-PF-06
	P-36-022663	CA-SBR-014427H	WSA-PF-07
	P-36-022664	CA-SBR-014428H	WSA-PF-08

No. resources: 37

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Adelanto, Alvord Mountain East, Baker, Baldy Mesa, Barstow SE, Cajon, Cave Mountain, Cronese Lakes, Daggett, Devore, Dunn, Fontana, Halloran Springs, Harvard Hill, Helendale, Hodge, Ivanpah Lake, Manix, Mescal Range, Mineral Hill, Minneola, Nebo, San Bernardino North, San Bernardino South, Soda Lake North, Solomons Knob, Turquoise Mountain, Turtle Valley, Valley Wells, Victorville, Victorville NW, West of Soda Lake, Yermo

Address:

PLSS:

Database record metadata

	Date	*User*
Entered:	10/4/2016	sstjames
Last modified:	9/21/2017	ikott

IC actions:	*Date*	*User*	*Action taken*
	10/4/2016	sstjames	Entered by IK.

Record status: Database Complete

Report Detail: SB-08196

Identifiers

Report No.: SB-08196

Other IDs:

Type	*Name*
Paleo	

Cross-refs:

Citation information

Author(s): McKenna, Jeanette A. and Robin Laska

Year: 2016

Title: A CULTURAL RESOURCES INVESTIGATION OF THE PROPOSED YERMO WATER SYSTEM PIPELINE INSTALLATION/REPLACEMENT PROJECT, YERMO, SAN BERNARDINO COUNTY, CALIFORNIA

Affliliation: McKENNA et al.

No. pages: 136

No. maps:

Attributes: Archaeological, Architectural/Historical, Field study

Inventory size:

Disclosure: Not for publication

Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-36-001910	CA-SBR-001910H	Union Pacific Railroad: Dagget t
P-36-003033	CA-SBR-003033H	The Mojave Trail; Old Mojave Ro
P-36-010628	CA-SBR-010628H	Yermo Railroad Roundhouse Ind
P-36-021629		Yermo Road / CNX 30
P-36-029386		Community of Yermo; Otis

No. resources: 5

Has informals:

Location information

County(ies): San Bernardino

USGS quad(s): Yermo

Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
	Yermo		

PLSS:

Database record metadata

	Date	*User*
Entered:	10/14/2016	ikott
Last modified:	10/14/2016	ikott

IC actions:

Record status: Database Complete

Appendix B
Native American Heritage Commission Correspondence

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: 1976-23 Yermo Plastics

County: San Bernardino County, California

USGS Quadrangle Name: Yermo, CA (2021)

Township: 09 North **Range:** 01 East **Section(s):** 2

Company/Firm/Agency: Bargas Environmental Consulting

Street Address: 3604 Fair Oaks Blvd. Ste 180

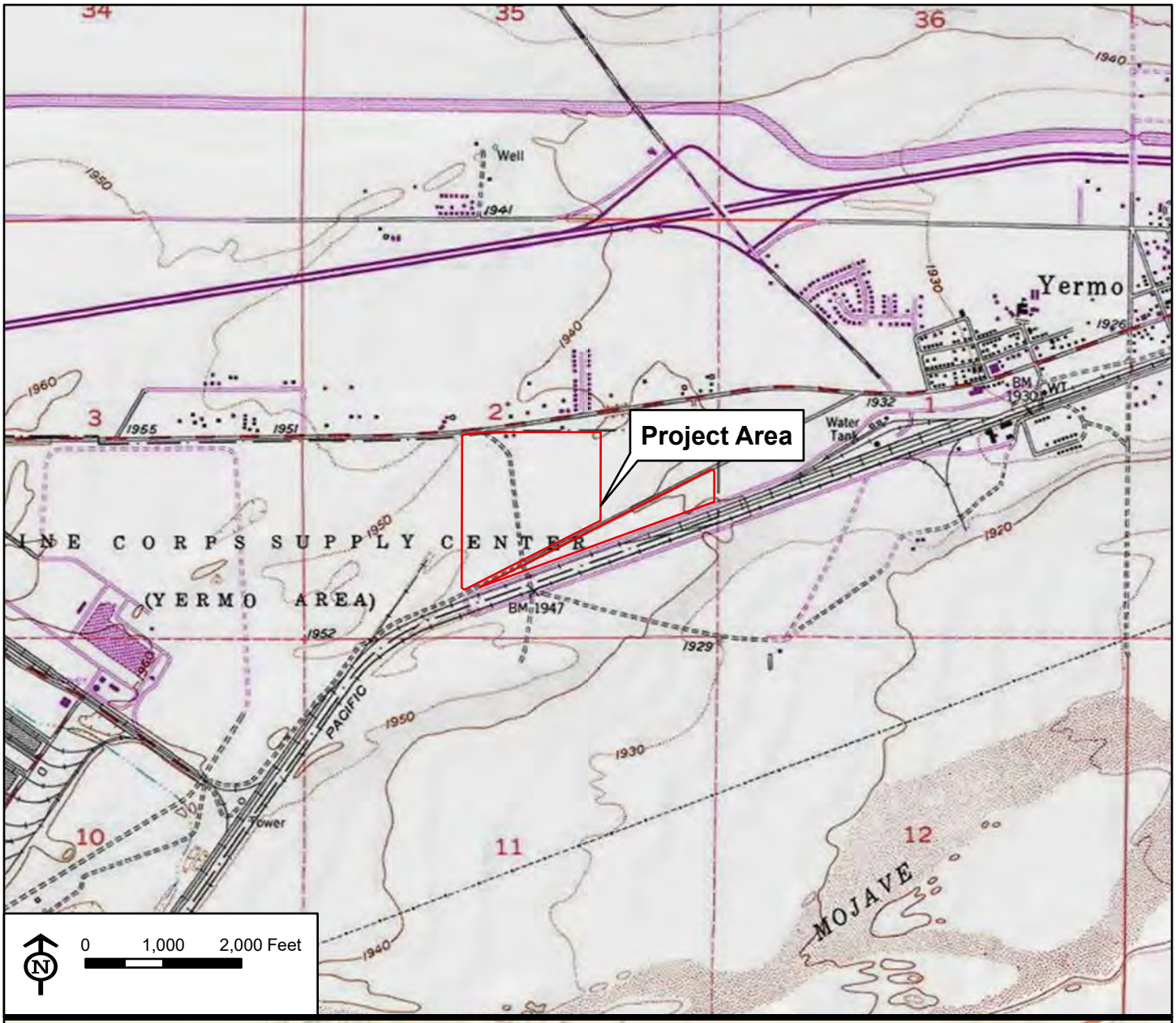
City: Sacramento **Zip:** 95864

Phone: 714-417-7655

Fax: N/A

Email: ahambley@bargasconsulting.com

Project Description:
The project includes the construction of the Yermo Plastics Recycling Facility located in the unincorporated city of Yermo, San Bernardino County. The development will include a warehouse and sorting facility and covers approximately 79.09 acres.





Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map

BARGAS Environmental Consulting

Public Land Survey System (PLSS):
San Bernardino,Township 9N, Range 1E, Section 27

USGS Quad(s): Yermo (1971)Project Site

Coordinates: 116°50'37"W 34°53'55"N

Freepoint Eco-Systems Plastics Recycling Feedstock Facility

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

June 20, 2024

Ari Hambley
Bargas Environmental Consulting

Via Email to: ahambley@bargasconsulting.com

Re: 1976-23 Yermo Plastics Project, San Bernardino County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Murphy.Donahue@NAHC.ca.gov

Sincerely,

Murphy Donahue

Murphy Donahue
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/20/2024

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
San Bernardino	Kern Valley Indian Community	N	Brandy Kendricks, Tribal Member Monitor	30741 Foxridge Court Tehachapi, CA, 93561	(661) 821-1733		krazykendricks@hotmail.com	Kawaiisu Tubatulabal	Inyo,Kern,Los Angeles,San Bernardino,Tulare	1/29/2024
	Kern Valley Indian Community	N	Robert Robinson, Chairperson	P.O. Box 1010 Lake Isabella, CA, 93240	(760) 378-2915		bbutterbredt@gmail.com	Kawaiisu Tubatulabal	Inyo,Kern,Los Angeles,San Bernardino,Tulare	1/29/2024
	Morongo Band of Mission Indians	F	Robert Martin, Chairperson	12700 Pumarra Road Banning, CA, 92220	(951) 755-5110	(951) 755-5177	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	
	Morongo Band of Mission Indians	F	Ann Brierty, THPO	12700 Pumarra Road Banning, CA, 92220	(951) 755-5259	(951) 572-6004	abrierty@morongo-nsn.gov	Cahuilla Serrano	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	
	Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantribe.com	Quechan	Imperial,Kern,Los Angeles,Riverside,San Bernardino,San Diego	5/16/2023
	San Fernando Band of Mission Indians	N	Donna Yocum, Chairperson	P.O. Box 221838 Newhall, CA, 91322	(503) 539-0933	(503) 574-3308	dyocum@sfbmi.org	Kitanemuk Vanyume Tataviam	Kern,Los Angeles,San Bernardino,Ventura	5/8/2023
	San Manuel Band of Mission Indians	F	Alexandra McCleary, Senior Manager of Cultural Resources Management	26569 Community Center Drive Highland, CA, 92346	(909) 633-0054		alexandra.mccleary@sanmanuel-nsn.gov	Serrano	Kern,Los Angeles,Riverside,San Bernardino	1/16/2024
	Serrano Nation of Mission Indians	N	Mark Cochrane, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(909) 578-2598		serranonation1@gmail.com	Serrano	Kern,Los Angeles,Riverside,San Bernardino	10/10/2023
	Serrano Nation of Mission Indians	N	Wayne Walker, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(253) 370-0167		serranonation1@gmail.com	Serrano	Kern,Los Angeles,Riverside,San Bernardino	10/10/2023
	Twenty-Nine Palms Band of Mission Indians	F	Sarah O'Brien, Tribal Archivist	46-200 Harrison Place Coachella, CA, 92236	(760) 863-2460		sobrien@29palmsbomi-nsn.gov	Chemehuevi	Imperial,Inyo,Riverside,San Bernardino	11/15/2023
	Twenty-Nine Palms Band of Mission Indians	F	Nicolas Garza, Cultural Resources Specialist	46-200 Harrison Place Coachella, CA, 92236	(760) 863-2486		nicolas.garza@29palmsbomi-nsn.gov	Chemehuevi	Imperial,Inyo,Riverside,San Bernardino	11/15/2023
	Twenty-Nine Palms Band of Mission Indians	F	Christopher Nicosia, Cultural Resources Manager/THPO Manager	46-200 Harrison Place Coachella, CA, 92236	(760) 863-3972		christopher.nicosia@29palmsbomi-nsn.gov	Chemehuevi	Imperial,Inyo,Riverside,San Bernardino	11/15/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 1976-23 Yermo Plastics Project, San Bernardino County.

Record: PROJ-2024-003142
Report Type: List of Tribes
Counties: San Bernardino
NAHC Group: All

APPENDIX D:
Phase I Environmental Assessment Report

DRAFT

13400 Sabre Springs Parkway
Suite 135
San Diego, California 92128
PH 619.297.1530
www.geosyntec.com

4 January 2024

VIA E-MAIL

Ms. Deirdre McCaffrey
Director of Asset Development
Freepoint Eco-Systems
3050 Post Oak Blvd, Suite 1330
Houston, TX 77056
DMcCaffrey@freepoint.com

Subject: **Phase I Environmental Site Assessment**
Approximately 80 Acres of the 37265 Yermo Road, Yermo, California 92398

Dear Ms. McCaffrey:

In accordance with your authorization of Geosyntec Consultants, Inc.'s (Geosyntec's) proposal dated 6 November 2023, Geosyntec has prepared the enclosed Phase I Environmental Site Assessment report for Freepoint Eco-Systems for the above-referenced property. Enclosed is an electronic copy of the report.

Should you have questions regarding this submittal or need additional information, please do not hesitate to contact us. We appreciate the opportunity to be of service to you.

Sincerely,

DRAFT

Veryl Wittig
Senior Principal

cc:

Encl.

Geosyntec consultants

engineers | scientists | innovators

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Subject Property: Approximately 80 Acres of the 37265 Yermo Road, Yermo, California 92398

Prepared for

Freepoint Eco-Systems
3050 Post Oak Blvd, Suite 1330
Houston, Texas 77056

Prepared by

Geosyntec Consultants, Inc.
13400 Sabre Springs Parkway, Suite 135
San Diego, California 92128

Project SC1427

January 2024

EXECUTIVE SUMMARY

This Executive Summary presents the results of the Phase I Environmental Site Assessment (ESA) conducted by Geosyntec Consultants, Inc., and its subsidiaries and affiliates (collectively, "Geosyntec") for the approximately 80-acre property located at 37265 Yermo Road, Yermo, California (Subject Property). The Subject Property is more specifically identified as San Bernardino County Parcel Numbers 0537071150000, 0537071160000, 0537071170000, and 0537071190000. This Phase I ESA was prepared in accordance with the scope of work, terms, and conditions described in Geosyntec's proposal dated 6 November 2023. This Phase I ESA was conducted in accordance with ASTM International (ASTM) Standard E5127-21[1] to identify, to the extent feasible, "recognized environmental conditions" (RECs) at the Subject Property as the term REC is defined by E1527-21.

The Subject Property comprises four parcels totaling approximately 80-acres and is accessed from its northern site boundary via Yermo Road. The Subject Property is owned by S&M Sunland LLC; C/O Graeme G Carr Trustee. At the time of Geosyntec's Subject Property reconnaissance, the Subject Property was vacant, undeveloped land with the exception of a temporary laydown yard on the southernmost parcel that is used by Union Pacific Railroad.

Based on the information set forth in this Phase I ESA, Geosyntec has concluded the following:

Recognized Environmental Conditions

- No RECs were identified during this Phase I ESA.

Controlled Recognized Environmental Conditions

- **Barstow Marine Corps Logistics Base (Yermo Annex)** is located approximately 2,900 feet west of the Subject Property, hydraulically upgradient. The annex is listed in the NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CONTROLS, UST INST CONTROLS, ENVIROSTOR, ROD, RAATS, PFAS NPL, and HWP databases. Barstow Marine Corps Logistics Base is an active military installation and is listed on the National Priorities List for trichloroethylene (TCE) contamination in groundwater. Solvent wastes, including TCE, were apparently generated in substantial quantities at the facility. The quantities of solvents used, stored, and discharge onsite are unknown and most of the wastes historically generated have been vehicle related (oils, grease, hydraulic fluids, fuels, battery acids, antifreeze, bilge waters, paints, degreasers and solvents) and war surplus (ammunition, various sources of low-level radiation, and chemicals including pesticides). Past disposal practices include landfills, spills, on-site burning, and surface impoundments. Volatile

[1] ASTM Standard E1527 is titled: "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*"

organic compounds (VOCs) have been detected in groundwater beneath the Base. The potential threat to the public health and environment includes migration of heavy metals, organic compounds, poly chlorinated biphenyls (PCBs), and TCE to groundwater. Remedial activities are currently conducted under direction of the Department of Toxic Substances Control (DTSC) and Lahontan Regional Water Quality Control Board (RWQCB). Geosyntec identified the groundwater plume to extend from the Base to the east; however, the plume is located southwest of the Subject Property. Due to ongoing cleanup, regulatory activities, and the characterized and delineated groundwater plume, this finding is considered a CREC.

Historical Recognized Environmental Conditions

- **Illegal Dump Piles**: Ami Adini Environmental Services (AAES) identified four illegal dump areas on the Subject Property in October 2022. These dump piles consisted of imported dirt, dilapidated household appliances, and debris. AAES sampled the dumps prior to removal and identified TPH, arsenic, and lead in the material piles. The debris and imported soil were removed from the Subject Property in June 2023 by Tri-Point Construction and American Integrated Services. Geosyntec did not identify any evidence of the illegal dump areas on the Subject Property during the Site Reconnaissance.

De Minimis Conditions

- No *de minimis* conditions were identified during this Phase I ESA.

Additional Findings

Per ASTM E1527-21, *"[s]ome findings, but not necessarily all findings, may be indicative of the presence of"* RECs, CRECs, HRECs, or *de minimis* conditions, while other findings may not be indicative as characterized above. These findings that do not fall within the defined characterizations above are therefore considered as additional findings and not classified above.

- **Vicinity Rail Yard:** The Union Pacific Railroad Yard is located directly south of the Subject Property, across Marine Road and Jellico Street. Railroads are often associated with the use of pesticides and herbicides for rodent and vegetation control, petroleum products, and creosote rail ties. No records were found which indicated environmental releases have occurred or contamination is present as a result of this feature.

Data Gaps

Our assessment revealed the following data gaps, as defined by ASTM:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for*

contamination at the property shall be conducted to the extent that they have been identified." Geosyntec was not provided with and did not identify owner contact information prior to the current Subject Property owner.

- ASTM E1527-21 states that "*all obvious uses of the subject property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier" using standard historical sources "at five-year intervals."* Despite efforts to do so, additional historical aerial photographs were not identified at five-year intervals between 1952 and 2005. This is considered a data failure; however, we do not consider this data failure to be significant.

Collectively, these data gaps are not considered to be significant to the Findings or the identification of RECs because sufficient information was obtained from other sources that has been used to inform our opinion.

1. INTRODUCTION 1
1.1 Objective 1
1.2 Scope of Services 1
1.3 Significant Assumptions 3
1.4 Limitations, Deviations, and Exceptions 3
1.5 Special Terms and Conditions 4
1.6 User Reliance 4

2. SUBJECT PROPERTY DESCRIPTION 5
2.1 Subject Property Location and General Characteristics 5
2.2 Current and Former Uses of the Subject Property 6
2.3 Description of Structures, Roads, Other Improvements on the Subject Property 6
2.4 Current and Prior Use of Adjoining and Surrounding Properties 6
2.5 Physical Setting 7

3. USER-PROVIDED INFORMATION 9
3.1 Title Records 9
3.2 Environmental Liens or Activity and Use Limitations 9
3.3 Specialized Knowledge 9
3.4 Knowledge of Hazardous Substances or Petroleum Products 9
3.5 Commonly Known or Reasonably Ascertainable Information 9
3.6 Valuation Reduction for Environmental Issues 9
3.7 Degree of Obviousness 10
3.8 Litigation, Administrative Proceedings, and Notices 10
3.9 Reason for Performing This Phase I ESA 10
3.10 Pertinent Documents 10

4. RECORDS REVIEW 11
4.1 Standard Environmental Records Sources 11
4.1.1 Database Search Approach 11
4.1.2 Database Search Results – Subject Property 11
4.1.3 Database Search Results – Vicinity Properties 12
4.1.4 Unplottable Sites 15
4.2 Historical Use Information 16
4.2.1 Historic Aerial Photographs 16
4.2.2 Historical Topographic Maps 16
4.2.3 City Directories 16

TABLE OF CONTENTS
(Continued)

4.2.4 Fire Insurance Maps 16
4.2.5 Property Tax Files 16
4.3 Local, County, State, and Federal Files 19
4.3.1 Local Fire Department Records 19
4.3.2 City or County Records 19
4.3.3 State Records 19
4.3.4 Federal Records 21
4.4 Other Documents Reviewed 21

5. SUBJECT PROPERTY RECONNAISSANCE 24
5.1 Utility Service and Materials Management Provider Information 24
5.2 Interior and Exterior Observations 25
5.3 Adjoining Property Reconnaissance 25

6. INTERVIEWS 28
6.1 Interview with Current Owner/Occupant/User 28
6.2 Interview with Previous Owner/Occupant 28
6.3 Interview with Local Agencies 28

7. FINDINGS AND CONCLUSIONS 29
7.1 Findings and Opinions 29
7.2 Conclusions 32

8. NON-SCOPE CONSIDERATIONS 33

9. REFERENCES 34

10. ENVIRONMENTAL PROFESSIONAL STATEMENT 35

11. QUALIFICATIONS OF STAFF 36

TABLE OF CONTENTS
(Continued)

LIST OF TABLES

Table 1 Scope of Services Details
Table 2 Parcel Information
Table 3 Site Vicinity Land Use
Table 4 Physical Setting
Table 5 Historical Records Review
Table 6 Site Utilities and Materials Management
Table 7 Interior and Exterior Observations

LIST OF FIGURES

Figure 1 Site Location Map
Figure 2 Site Vicinity Map
Figure 3 Site Layout Map

LIST OF APPENDICES

Appendix A Tax and Parcel Information
Appendix B Historical Source Records and Database Reports
Appendix C User-Provided Documents
Appendix D Regulatory or Agency Files
Appendix E Site Visit Photographs

1. INTRODUCTION

Geosyntec Consultants, Inc., and its subsidiaries and affiliates (collectively, "Geosyntec") were retained by Freepoint Eco-Systems (Freepoint) to conduct a Phase I Environmental Site Assessment (ESA) for the approximately 80-acre property located at 37265 Yermo Road, Yermo, California (Subject Property). The Subject Property is more specifically identified as San Bernardino County Parcel Numbers 0537071150000, 0537071160000, 0537071170000, and 0537071190000. The Subject Property location is shown on **Figure 1** (Site Location Map). A recent Subject Property vicinity property layout is depicted on **Figure 2** (Site Vicinity Map) and a recent site layout is depicted on **Figure 3** (Site Layout Map).

1.1 Objective

This Phase I ESA was conducted in general accordance with the scope and limitations of certain guidance contained within the ASTM International (ASTM) Standard Practices E1527-21. The primary purpose of the Phase I ESA was to identify, to the extent feasible, if one or more "recognized environmental conditions[2]" (RECs) exist at the Subject Property, as the "REC" terminology is defined by ASTM E1527-21. Deviations or exceptions to the guidance contained in the E1527-21 standards of practice are described in Section 1.4.

Geosyntec's objective is to provide the User with a Phase I ESA that includes a search for the existence of potential or known surface or subsurface environmental impacts at the Subject Property. For the purposes of this Phase I ESA report, Freepoint is the "User," defined as "*the party seeking to use Practice E1527 to complete an environmental site assessment of the subject property*…" in partial fulfillment of the requirements of the All Appropriate Inquiry Rule under 40 CFR 312.

1.2 Scope of Services

The Phase I ESA scope of work included the following:

- Review of pertinent information/documents
- Review of environmental databases regarding the Subject Property itself as well sites in the vicinity of the Subject Property pursuant to the E1527-21 Practice

[2] As defined by ASTM E1527-21, a Recognized Environmental Condition is: "(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."

- Review of historical land usage via historical aerial photographs, fire insurance maps, city directories, property tax files, and topographic maps, as available
- Visit to the Subject Property for a visual reconnaissance of the major interior and exterior site features and use of adjoining properties
- Interviews with current and former owner/occupants knowledgeable with site operations
- Preparation of a Phase I ESA report

In accordance with Geosyntec's scope of work for this project, "non-scope considerations", as defined in ASTM E1527-21, were not evaluated as part of this Phase I ESA, unless as noted in Section 8.

Geosyntec's authorization and conduct to complete the scope of work are as follows:

Table 1. Scope of Services Details

Scope Item	Detailed Information
Site Name or Reference	Approximately 80 Acres located at 37265 Yermo Road
Site Address	37265 Yermo Road
City, State, and Zip Code	Yermo, California 92398
Parcel IDs	San Bernardino County 0537071150000, 0537071160000, 0537071170000, and 0537071190000
Proposal Date	6 November 2023
Authorization Date	10 November 2023
Database Report Date	13 November 2023
Site Visit Date	14 December 2023
Current Owner/Occupant Interview Date	22 October 2022
Previous Owner/Occupant Interview Date	Interviews with prior owners and occupants were not conducted as part of this assessment (refer to Section 6.2)
Local Agencies Interview Date(s)	Various agencies were contacted as documented in Section 4.3.
Report Date	3 January 2024
Viability Date	12 May 2024
Geosyntec Site Personnel	Ms. Victoria Severin-Marshall
Facility Personnel and Role	Graeme Carr, Owner (no onsite personnel)
Report Preparer(s)	Ms. Victoria Severin-Marshall and Ms. Emily Glensky

Scope Item	Detailed Information
Report Reviewer(s)	Mr. Eric Stiffler
Environmental Professional[1]	Mr. Veryl Wittig

Note 1: The Environmental Professional meets the requirements as stated in E1527-21.

The professional qualifications of the senior reviewers, including the signatory Environmental Professional are presented in Section 11.

1.3 Significant Assumptions

Geosyntec took no significant assumptions into account as part of this project.

1.4 Limitations, Deviations, and Exceptions

This Phase I ESA was conducted according to the agreed upon scope of work consistent with the ASTM Practice E1527-21, except as follows:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for contamination at the property shall be conducted to the extent that they have been identified*." Geosyntec was not provided with and did not identify owner contact information prior to the current site owner.

- ASTM E1527-21 states that "*all obvious uses of the subject property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier" using standard historical sources "at five-year intervals."* In 1986 the Subject Property was not developed, and apparent surface mining was observed in the next available aerial photograph from 1994. Despite efforts to do so, additional historical aerial photographs were not identified at five-year intervals between 1986 and 1994. This is considered a data failure; however, we do not consider this data failure to be significant.

- Geosyntec did not traverse significantly vegetated areas and did not enter water bodies during the site visit.

This Phase I ESA did not include sampling rock, soil, groundwater, surface water, soil vapor, air, or on-site substances or materials. Therefore, it is not possible to confirm the presence or absence of hazardous substances or petroleum products in the environments associated with the property. The findings and conclusions presented in this Phase I ESA are the result of professional interpretation of the information collected at the time of this study. Specified information contained in this report has been obtained from publicly available sources and other secondary sources of information. Although care has been taken in compiling this information, Geosyntec has not independently validated this information and provides no warranty as to its accuracy or

completeness. The Phase I ESA does not necessarily include an exhaustive search of all available records, nor does it include detailed assessment of all Phase I ESA findings. Therefore, Geosyntec cannot "certify" or guarantee that any property is free of environmental impairment; no warranties regarding the environmental quality of the property are expressed or implied.

1.5 Special Terms and Conditions

No special contractual terms or conditions were taken into account as part of this project.

1.6 User Reliance

This Phase I ESA report has been prepared solely for the benefit of Freepoint ("User"). Geosyntec has issued the Phase I ESA report to Freepoint and grants Freepoint the right to rely on the report contents. Except as specifically set forth in Geosyntec's proposal to Freepoint to perform this work, no third party shall have the right to rely on Geosyntec opinions rendered in connection with the Services without Geosyntec's written consent which may be conditioned on the third party's agreement to be bound to acceptable conditions and limitations similar to those agreed to by Freepoint. Please note that Geosyntec's consent to provide a right-to-rely on the Phase I ESA report is subject to Freepoint's approval and to agreement to Geosyntec's terms and conditions associated with Geosyntec's performance of this specific Phase I ESA.

2. SUBJECT PROPERTY DESCRIPTION

The Subject Property description presented herein is derived from information provided by the User, Freepoint, and information gathered during the research of historical records and the reconnaissance unless referenced otherwise.

2.1 Subject Property Location and General Characteristics

The Subject Property is located at 37265 Yermo Road, Yermo, California and is surrounded by vacant properties. The approximately 80-acre Subject Property comprises four parcels (**Table 2)**. The location of the Subject Property is shown on **Figure 1**. A recent vicinity property layout is depicted on **Figure 2** and a recent site layout is depicted on **Figure 3**. Ownership information, where available, is provided in **Appendix A**.

Table 2. Parcel Information

Parcel No.	Zoning	Owner	Approximate Area (Acres)	Land Use/Description
0537071150000	Industrial	S&M SUNLAND LLC; C/O GRAEME G CARR TRUSTEE	23.64	Property currently vacant, and previously used for manufactured mobile homes in the northern portion
0537071160000	Industrial	S&M SUNLAND LLC; C/O GRAEME G CARR TRUSTEE	18.24	Property currently vacant
0537071170000	Industrial	S&M SUNLAND LLC; C/O GRAEME G CARR TRUSTEE	22.30	Property currently vacant
0537071190000	Industrial	S&M SUNLAND LLC; C/O GRAEME G CARR TRUSTEE	15.91	Temporary laydown yard (operated by Union Pacific), remainder of property currently vacant

Source: San Bernardino (sbcounty.gov)

2.2 Current and Former Uses of the Subject Property

The Subject Property is owned by S&M Sunland LLC; C/O Graeme G Carr Trustee. At the time of Geosyntec's site reconnaissance, the majority of the Subject Property was not in use. Three manufactured mobile homes were identified at the Subject Property intersecting the northern border. Additionally, a temporary laydown yard operated by Union Pacific Railroad was present on a portion of the southernmost parcel. Marine Road bisects the Subject Property in the south and Athletic Field Road bisects the Subject Property through the central area. No other structures were identified within the borders of the Subject Property.

2.3 Description of Structures, Roads, Other Improvements on the Subject Property

Three manufactured mobile homes were identified at the Subject Property intersecting the northern border. A temporary laydown yard operated by Union Pacific Railroad was present on a portion of the southernmost parcel. Marine Road bisects the Subject Property in the south and Athletic Field Road bisects the Subject Property through the central area. No other structures were identified within the boundaries of the Subject Property. Current site features observed during the site reconnaissance are presented on **Figure 3**.

2.4 Current and Prior Use of Adjoining and Surrounding Properties

At the time of completion of this Phase I ESA and in recent years, the vicinity surrounding the Subject Property consisted of a mix of rural and residential land use with some light industrial use to the south and west and across the adjoining railroad track. The land use immediately surrounding the Subject Property is noted in **Table 3** below.

Table 3. Adjoining Property and Surrounding Land Use

Direction	Current Geosyntec-Observed Use[1]	Identified Prior Use	Considered to be More Likely to Result in Surface/Subsurface Quality Impacts to the Subject Property (Yes/No)
North	Yermo Road followed by residential properties and vacant land	Vacant land	No
South	Union Pacific Railroad Yard followed by vacant land	Union Pacific Railroad Yard followed by vacant land	No
East	Vacant land, residential properties, car junkyard	Vacant land	No

Direction	Current Geosyntec-Observed Use[1]	Identified Prior Use	Considered to be More Likely to Result in Surface/Subsurface Quality Impacts to the Subject Property (Yes/No)
West	Dusty Trail followed by USMC Logistics Base and Production Plant Barstow	Vacant land	Yes

Note 1: Observations from Geosyntec's 14 December 2023 site visit.

The adjoining properties were briefly inspected during the site reconnaissance (from vantage point of the Subject Property or public rights-of-way) to observe the associated land use practices (e.g., condition, housekeeping, evidence of chemical usage/spills). Observations made for the adjoining sites are described later in this report (Section 5).

2.5 Physical Setting

A summary of the physical setting of the Subject Property and vicinity including topography, geology/ hydrogeology, and water resources is presented in **Table 4**. Environmental Data Resources (EDR) provided Geosyntec with a Radius Map Report (RMR) for the area including the Subject Property which serves as a source of certain information. Other sources of information in **Table 4** are noted accordingly.

Table 4. Physical Setting

Topic	Information	Source
Topography		
USGS 7.5-Minute Quadrangle Map	Yermo, CA	U.S. Geological Survey (USGS)
Elevation	Approximately 1,948 feet above mean sea level (ft MSL)	EDR RMR
General Topographic Gradient	There is a slight topographic slope to the northeast.	USGS Quadrangle Map and site Reconnaissance
Soils & Geology		
Subject Property Soils	The majority of the soils at the property are classified as Cajon sand. These soils are somewhat excessively drained and belong to hydrologic group A.	EDR RMR
Area Geology	The Subject Property vicinity is underlain by Quaternary-aged alluvium.	EDR RMR

Table 4. Physical Setting

Topic	Information	Source
Water Resources		
Nearest Water Body	The nearest surface water body to the Subject Property is the Mojave River located approximately 1 mile south of the Subject Property.	US Fish & Wildlife Wetland Map, EDR RMR and USGS Quadrangle Map
Estimated Groundwater Flow Direction[3]	No groundwater flow data was reported by EDR; however, the groundwater flow in this area is inferred to be to the east based on general trend of the Mojave River. Groundwater monitoring events at the adjacent Yermo Annex of Marine Corps Logistics Base Barstow identified groundwater flow in the area to be to the east.	EDR RMR
Depth of Groundwater	The wells located at vicinity properties reported in the EDR RMR did not provide information on depth to water. Nearby properties in the GeoTracker and Envirostor databases did not identify groundwater up to 125 feet below ground surface (bgs).	EDR Topographic Maps and RMR
Wetlands (on-site)	No part of the Subject Property is classified as wetlands by the US Fish and Wildlife Service. National Wetlands are located within 1-mile of the Subject Property.	NWI, US Fish & Wildlife Wetland Map. EDR RMR
Wells (on-site)	A search of local/regional water agency records by EDR reported no wells on the Subject Property. During the site reconnaissance, groundwater wells were not observed on the Subject Property.	EDR RMR & Site Reconnaissance (see Section 5)
Nearby[4] **Groundwater Supply and Monitoring Wells**	A search of local/regional water agency records by EDR reported: • 39 wells identified in the Federal USGS Well Information database within 1 mile of the Subject Property. • 57 wells identified in the State Database Well Information within 1 mile of the Subject Property	EDR RMR

[3] Local groundwater flow direction may vary depending on area groundwater pumping, surface water bodies, land use and development, localized topography, and other macro and micro features.
[4] ERIS searched federal and state water well databases within one mile of the Subject Property boundary.

3. USER-PROVIDED INFORMATION

This section describes the information provided to Geosyntec by Freepoint Eco-Systems (the User of this Phase I ESA). This includes information that was provided in the User Questionnaire (**Appendix C**).

3.1 Title Records

Geosyntec was not provided with and did not review title records for the Subject Property. A property title search was not included in the scope of Geosyntec's services.

3.2 Environmental Liens or Activity and Use Limitations

The User did not supply Geosyntec with information regarding environmental liens or activity and land use limitations associated with the Subject Property; a search for such liens or activity and use limitations was not included as part of Geosyntec's scope of work.

3.3 Specialized Knowledge

The User indicated that it does not have specialized knowledge of environmental conditions at the Subject Property.

3.4 Knowledge of Hazardous Substances or Petroleum Products

The User is not aware of any hazardous substances or petroleum products in, on, or under the Subject Property except for four historical soil and debris piles containing potentially hazardous materials. These piles were investigated and were determined to contain total petroleum hydrocarbons (TPH), lead, and arsenic. The material piles are further discussed in **Section 4.4**.

3.5 Commonly Known or Reasonably Ascertainable Information

The User is not aware of any commonly known or reasonably ascertainable information within the local community about the Subject Property that is material to RECs in connection with the Subject Property.

3.6 Valuation Reduction for Environmental Issues

The User has not informed Geosyntec regarding whether or not the valuation of the Subject Property has been reduced or otherwise impacted by environmental issues (as defined in AAI[5]). at the Subject Property.

[5] The "All Appropriate Inquiry Rule", enacted under the 2002 Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act; 40 CFR 312

3.7 Degree of Obviousness

The User has considered the degree of obviousness of the presence or likely presence of releases or threatened releases at the Subject Property and the ability to detect releases or threatened releases by appropriate investigation. The User has not observed any conditions indicating the presence or likely presence of releases or threatened releases at the Subject Property.

3.8 Litigation, Administrative Proceedings, and Notices

The User is not aware of (i) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Subject Property; (ii) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Subject Property; or (iii) any notices from any governmental entity regarding any possible violations of environmental laws or possible liability relating to hazardous substances or petroleum products.

3.9 Reason for Performing This Phase I ESA

Geosyntec understands that Freepoint Eco-Systems engaged Geosyntec to perform this Phase I ESA for the Subject Property to identify RECs (as defined in ASTM E1527-21) in order to help identify potential environmental liabilities associated with potentially leasing the Subject Property.

3.10 Pertinent Documents

The User provided prior Phase I and Phase II ESA documents to Geosyntec for review. These reports are included in **Appendix C** and are discussed in Section 4.4.

4. RECORDS REVIEW

Geosyntec reviewed the following records, to the extent we found these to be available and reasonably ascertainable:

- Federal, state, and local environmental databases
- Historical aerial photographs
- Historical topographic maps
- Fire insurance maps
- City directories
- Local authority permits and records
- Available property tax information

In addition to the standard sources above, Geosyntec reviewed available Subject Property-related documents provided by the User and reviewed environmental files obtained from regulatory agencies.

4.1 Standard Environmental Records Sources

4.1.1 Database Search Approach

Geosyntec contracted EDR to provide portions of the records reviewed as described below. EDR conducted the environmental database search in an attempt to ascertain whether the Subject Property or neighboring properties were suspected of having environmental conditions that could have impacted the surface or subsurface at the Subject Property. EDR reported specific records and search distances (from the approximate site boundaries) for the environmental databases to be consistent with ASTM Practice E1527-21 and are discussed in the EDR Database Report (EDR, 2022f) presented in **Appendix B**. Database descriptions are included in the EDR report.

The following sections discuss listings that are projected to be located upgradient of the Subject Property and have reported (or suspected) contamination or that have the potential for significant contamination that could have impacted the Subject Property (such as National Priorities List [NPL] or Resource Conservation and Recovery Act [RCRA] Corrective Action sites). The locations of these listed sites are shown on the Overview Map and Detail Map in the EDR Database Report (**Appendix B**).

4.1.2 Database Search Results – Subject Property

EDR did not identify any database listings for the Subject Property.

4.1.3 Database Search Results – Vicinity Properties

The search of environmental databases identified 8 listings for properties within ½-mile of the Subject Property, some of which were in databases indicative of releases. Other than select sites discussed below based on their database listing, listed sites located greater than ½-mile from the Subject Property were not evaluated because they are not anticipated to adversely affect the Subject Property based on their database listing, location, and/or proximity. A summary of reviewed database listings is included below:

- **Yermo Area** is listed in the DOD database for an active Marine Corps Station. This listing is discussed below with the Barstow Marine Corps Logistics Base (Yermo Annex) listings. No other information was provided with this listing. This finding is considered unlikely to be of environmental concern to the Subject Property based on the nature of the listing.

- **Yermo California Classification Yard** at Marine Road (adjacent south of the Subject Property, hydraulically cross gradient), is listed in the CIWQS database for a storm water construction permit valid from March 2011 to August 2012 during construction on the Union Pacific Railroad. This facility is considered unlikely to be of environmental concern to the Subject Property based on the nature of the listing and lack of reported releases or violations.

- **Sprint-Yermo Regenerator Cayera** at 36992 Yermo Road (approximately 82 feet north northwest of the Subject Property, hydraulically cross gradient), is listed in the San Bernadino County Permit database for a hazardous materials permit that expired on 30 September 2020. This facility is considered unlikely to be of environmental concern to the Subject Property based on the nature of the listing and lack of reported releases or violations.

- **Yermo Rail Yard**, approximately 444 feet east-southeast of the Subject Property (hydraulically downgradient), is listed in the CPS-SLIC database. No information was identified for this listing. This facility is considered unlikely to be of environmental concern to the Subject Property based on the downgradient location of the facility in relation to the Subject Property.

- **Holding and Reconsignment Point Depot**, approximately 919 feet east of the Subject Property (hydraulically downgradient), is listed in the FUDS database and is reportedly used for storing land lease and other supplies. This facility is considered unlikely to be of environmental concern to the Subject Property based on the nature of the listing and downgradient location of the facility in relation to the Subject Property.

- **Reconsignment PT Depot**, approximately 943 feet east of the Subject Property (hydraulically downgradient), is listed in the ENVIROSTOR database. The case is

identified as inactive as of 1 July 2005. The ENVIROSTOR listings denotes that this facility was used for storage of supplies already consigned to specific destinations. This depot provided railroad spurs and sidings, loading and unloading docks, and switching yards. Approximately 140 buildings were constructed at this facility for administration, barracks, dormitories, warehouses, and maintenance facilities. By 1995, the only structures at this facility were a small administration building and warehouse used by the railroad. Underground facilities, such as tanks and pipelines, have been used by the railroad companies. Based on the Findings of Fact letter from 5 January 1995, approximately 8 acres of this facility were eligible for the DERP FUDS. This facility is considered unlikely to be of environmental concern to the Subject Property due to the nature of the listing and downgradient location of the listing in relation to the Subject Property.

- **Abandoned Tank** at 37613 Yermo Road (approximately 2,146 feet east northeast of the Subject Property, hydraulically downgradient), is listed in the LUST, Cortese, San Bernardino County Permit, and CERS databases. The property was also identified on GeoTracker as the Shaw Property. This property was previously used as a fuel retail station consisting of a single-story building, canopy, and three dispensers. During removal of four USTs at this facility in August 2006, a total of eight soil samples were collected beneath the USTs and three soil samples were collected from beneath the three dispensers. TPHg, benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE) and total lead were detected in shallow soils beneath the former USTs. Soil stockpiled during UST removal and characterized as clean was used to backfill the tank cavities. In August 2008, Environ Strategy conducted a subsurface site assessment. Seven onsite soil borings (B-1 through B-7) were advanced to a maximum depth of 105 feet to define the vertical and lateral extent of hydrocarbon-affected soil encountered during tank removal activities. Hydrocarbon affected soil was encountered in the vicinity of former UST cavities. Analytical results for soil samples collected from Borings B-3 through B-6 indicate that TPHg and BTEX were detected in subsurface soil in the area of former UST cavity T3. In March 2009, Environ Strategy conducted an additional site assessment to further define the extent of hydrocarbon-affected soil. Three step-out borings (B-8 through B-10) and two dual nested vapor extraction wells (VEX-1 and VEX-2) were drilled to depths ranging from 70 feet to 125 feet. Soil samples collected from step-out Boring B-8, located east of former UST cavity T3, contained detectible levels of fuel constituents. In February 2009, pilot testing was performed at the property to evaluate the effectiveness of SVE technology at recovering fuel hydrocarbons from subsurface soil. Pilot test results indicated that SVE is a viable technology for remediating hydrocarbon-affected soil beneath the Site. At the completion of pilot testing, an estimated 475 pounds of fuel contaminants were removed based on influent vapor photo-ionization detector (PID) readings. In April 2009, a Remedial Action Plan (RAP) recommending implementation of SVE for site remediation was submitted to the San Bernardino Fire Department (SBCFD) for review. The RAP was approved by the SBCFD in a letter, dated May 20, 2009. From November 2009 to January

2010, an SVE system was installed at the Site and system operation commenced on January 26, 2010. SVE system installation and start-up activities are documented in Environ Strategy's Remediation System Installation Report, dated March 22, 2010. In March 2011, regulatory oversight of the case was transferred to the RWQCB. From August 8, 2012 through September 9, 2012, rebound testing was performed at the Site. The rebound test was conducted in accordance with the RWQCB-approved Workplan for SVE System Rebound Testing which was presented in Environ Strategy's Second Quarter 2012 Remediation System O&M Progress Report, dated July 20, 2012. On September 10, 2012, the SVE system was shut down following completion of rebound testing activities. Based on the rebound testing results, the SVE system has remained offline and confirmation sampling was recommended. A Workplan for Confirmation Sampling, dated November 15, 2012, and Addendum to the Workplan for Confirmation Sampling (Addendum), dated November 29, 2012, were submitted to the RWQCB to conduct confirmation soil sampling and soil vapor sampling to assess current hydrocarbon site conditions. The case was closed 19 November 2013 following confirmation sampling, and the no further action letter is available on the GeoTracker website. Groundwater was not encountered to a depth of 125 feet below ground surface. This facility is not considered likely to be of environmental concern to the Subject Property based on the regulatory status of the property and documented cleanup history.

- **Barstow Marine Corps Logistics Base (Yermo Annex)** in Barstow, California (located approximately ½-mile 2,900 feet west of the Subject Property, hydraulically upgradient), is listed in the NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CONTROLS, UST INST CONTROLS, ENVIROSTOR, ROD, RAATS, PFAS NPL, and HWP databases. Barstow Marine Corps Logistics Base is an active military installation and is listed on the National Priorities List for trichloroethylene (TCE) contamination in groundwater. The installation has been used for maintenance, repair, supplies, and rebuilding equipment for the Marine Corps since 1942. Solvent wastes, including TCE, were apparently generated in substantial quantities at the facility. The quantities of solvents used, stored, and discharge onsite are unknown and most of the wastes historically generated have been vehicle related (oils, grease, hydraulic fluids, fuels, battery acids, antifreeze, bilge waters, paints, degreasers and solvents) and war surplus (ammunition, various sources of low level radiation, and chemicals including pesticides). A total of 38 sites have been identified and placed into seven operable units (OUs) at the Base. Past disposal practices which include landfills, spills, on-site burning, and surface impoundments, threaten the groundwater and have contaminated the surface soils. Volatile organic compounds (VOCs) have been detected in groundwater beneath the Base. The potential threat to the public health and environment includes migration of heavy metals, organic compounds, poly chlorinated biphenyls, and TCE to the groundwater. Phase I of a four-phase Installation Restoration Program (IRP) has been completed by the Department of Defense (DOD). Phase I identified 33 of the 38 sites for investigation of potential contamination. The site was placed on the National

Priority List in November 1989. On October 24, 1990, EPA, DTSC, DoD and the RWQCB entered into a Federal Facility Agreement (FFA) to investigate contamination under EPA and State oversight. OU 1 consists of three groundwater plumes at Yermo Annex. The remedy for OU 1 was established in the OUs 1 and 2 ROD signed in 1998. The ROD addresses VOC contamination at these plumes. The primary VOCs affecting groundwater are PCE and TCE. Portions of the groundwater plumes extend off-Base. These plumes are being remediated by air sparging/soil vapor extraction (AS/SVE) systems, and the Yermo Annex Groundwater Extraction and Treatment System (GETS). The GETS includes extraction wells, treatment of extracted groundwater through granular-activated carbon (GAC), and infiltration of treated water into the aquifer. The remedial systems were installed from 1996 - 1998. The AS/SVE system was shut down in 1998 after meeting remedial objectives but the GETS remain in operation. OU 3 consists of the shallow soils at Yermo Annex. The selected remedies under the OUs 3 and 4 ROD (signed 1997) include land use covenants (LUCs) and concrete caps. The LUCs are implemented through the Base Master Plan (BMP). Groundwater monitoring for CAOCs 20 and 23 is performed annually under OU 1. OU 5 is the shallow soils at Yermo Annex. Remedies selected in the ROD for OU 5 are: No further action (NFA) and NFA with BMP modifications. In 2019, the depth to the aquifer beneath the installation was recorded between 10 and 25 feet bgs. This facility is considered likely to be of environmental concern to the Subject Property based on the ongoing cleanup at numerous locations at this facility. The extent of the groundwater plume beneath the Yermo Annex has been adequately characterized and has been relatively stable. The plume extends to the east from the source zone on the Base; however, the plume is located to the southwest of the Subject Property and is not within the boundaries of the property. Due to ongoing cleanup, regulatory activities, and adequately characterized and stable groundwater plume, this finding is considered a CREC.

4.1.4 Unplottable Sites

EDR identified three “unplottable sites” which were not mapped by EDR due to the lack of sufficient address information. Two CDL sites and one LUST case were identified. The LUST case was opened in 1993 for a gasoline release to soil at a former Chevron station approximately 2 miles west northwest (hydraulically cross gradient) of the Subject Property. This site is also identified as Mikhan Inc. in the GeoTracker database. The case is listed as closed; however, no regulatory documents or cleanup reports were identified. The two CDL sites were identified in 1998, approximately ¼-miles northwest (hydraulically cross gradient) of the Subject Property, and on CDL site was identified in 2003, approximately 1.5-miles east (hydraulically downgradient) of the Subject Property. No further information was provided on the illegal drug labs. Geosyntec did not find evidence that the unplottable sites offered more than a low potential for contamination that might be present to have adversely impacted the surface or subsurface quality at the Subject Property.

4.2 Historical Use Information

Geosyntec contracted EDR to provide standard historical records, including aerial photographs, topographic maps, city directories, and fire insurance maps (EDR, 2022a-e). The sections below identify and summarize the historical information sources reviewed for the Subject Property and vicinity. A summary of the findings from the review of the historical sources is provided in **Table 5**. Copies of the historical records reports are included in **Appendix B**.

4.2.1 Historic Aerial Photographs

EDR provided aerial photographs from 1952, 1959, 1964, 1970, 1975, 1983, 1995, 2005, 2009, 2012, 2016, and 2020. Additional aerials were reviewed from Google Earth for 2023.

4.2.2 Historical Topographic Maps

EDR supplied portions of USGS topographical maps of the Subject Property and vicinity for 1953, 1956, 1970, 1971, 1983, 2012, 2015, 2018 and 2021.

4.2.3 City Directories

Available business directories, including cross reference and telephone directories, were reviewed for 301-38779 of Yermo Road for 1976, 1980, 1986, 1992, 1995, 2000, 2005, 2014, 2017, and 2020.

4.2.4 Fire Insurance Maps

Based on EDR's search of fire insurance maps, there was no coverage for the Subject Property or adjoining properties.

4.2.5 Property Tax Files

Geosyntec researched publicly available online tax records through San Bernardino County records. The information retrieved included property boundary information, property owner, and property size. The owner for the parcel of the Subject Property is listed as "S&M Sunland LLC; C/O Graeme G Carr Trustee." The retrieved tax map parcel information is provided in **Appendix A.**

Table 5. Historical Records Review

Aerial Photographs	Topographic Maps	City Directory (CD)	Fire Insurance Maps
Subject Property: Between 1952 and 2020, aerial photographs depict the Subject Property to have been primarily vacant land with the exception of two manufactured mobile homes on the northern border of the property and one mobile home in the northeast corner of the property. The mobile home in the northeast corner of the Subject Property is no longer visible on the 2016 aerial. Marine Road and Athletic Field Road are visible on the aerials. **Adjoining and Vicinity**: The earliest aerial photograph from 1952 depicts the Union Pacific Railroad and Yard adjacent to the southern border of the Subject Property. Residential properties are visible to the north and northeast of the Subject Property. The 1964 aerial depicts additional residential structures north of the Subject Property, across Yermo Road. Dusty Trail Road is first visible on the 1995 aerial adjacent to the western border of the Subject Property. No significant	The Subject Property ranges in elevation from 1,940 ft amsl to 1,950 ft amsl. No definitive changes in elevation over time were noted from the topographic map review. **Subject Property**: The earliest topographic map from 1953 depicts Athletic Field Road and Marine Road within the Subject Property boundaries. Athletic Field Road runs north to south and intersects Marine Road, which runs southwest to northeast. The 1983 topo depicts an additional section of Marine Road in the southwest corner of the Subject Property. The subsequent topos do not show this portion of Marine Road. **Adjoining and Vicinity:** The 1953 topo depicts the Union Pacific Railroad and Yard adjacent to the southern border of the Subject Property. Yermo Road is depicted adjacent to the northern border of the Subject Property. Small residential structures are depicted to the north, northwest, and northeast of the Subject Property. The Yermo Marine Base (Barstow Annex) is depicted within 1-mile west of the Subject Property. The Mohave River is visible approximately 1-mile south of the Subject Property. The 1970/1971 topo depicts Interstate 15 north of Yermo Road. Additional residential structures are depicted to the north and northeast. The Marine Corps Supply Center (Yermo Annex) is depicted to the west	**Subject Property**: The Subject Property address is 37265 Yermo Road and was listed in the Digital Business Directory in 1992 as a residential property. **Adjoining and Vicinity**: In 1976, properties from 37016 to 37430 Yermo Road were identified as residential properties. In 1980, Nokis Taco and Almeta's Beauty Salon were listed at 38434 and 38737 Yermo Road. 37016 to 37430 were identified as residential properties. In 1986, 37016 to 37692 Yermo Road were identified as residential properties. In 1992, 37206 to 37380 Yermo Road were identified as residential properties. In 1995, 567 Yermo Road was identified as a residential property and 35474 Yermo Road was identified as a Circle C Minimart. In 2000, 37206 to 37380 Yermo Road were identified as residential properties.	According to EDR, no fire insurance maps were available for the Subject Property or adjoining properties.

Table 5. Historical Records Review

Aerial Photographs	Topographic Maps	City Directory (CD)	Fire Insurance Maps
changes were identified in subsequent aerials.	with the production plant in the northeast corner of the installation. The 2012 topo depicts Dusty Trail adjacent to the western border of the Subject Property. The 2018 topos depict new minor roads to the southeast of the Subject Property and within residential communities.	In 2005, 38779 Yermo Road was identified as a residential property. In 2014, 301 Yermo Road was identified as a residential property and 35474 Yermo Road was identified as a Desert AM/PM. In 2017, 35474 Yermo Road was identified as a Desert AM/PM. In 2020, 37206 and 37334 were identified as residential properties.	
In summary, the review of aerial photographs, topographic maps, and city directories did not reveal usages that could be indicative of hazardous materials or chemical storage, management, usage, or disposal at the Subject Property or in the immediate vicinity that could pose a threat to the surface or subsurface quality at the Subject Property. However, in this review, Geosyntec noted no definitive features showing chemical management, chemical spills or evidence of waste disposal on or into the ground at the Subject Property. Our opinions on the nature of the historical features of the Subject Property and the surrounding area are included in Section 7 of this report.			

4.3 Local, County, State, and Federal Files

Geosyntec contracted Environmental Support Services (ESS) to contact local, county, and state agencies via telephone and electronic mail to inquire about relevant records regarding the Subject Property. Relevant information is summarized below. Excerpts of relevant regulatory agency documents are presented in **Appendix D**.

4.3.1 Local Fire Department Records

San Bernardino County Fire Department

ESS requested records from the San Bernardino County Fire Department on 13 November 2023. On 14 November 2023, the department representative informed ESS that no records were available for the Subject Property.

Cal Fire – Office of the State Fire Marshal

ESS requested records from Cal Fire on 13 November 2023. On 14 November 2023, the department representative informed ESS that no records were available for the Subject Property.

4.3.2 City or County Records

San Bernardino County Department of Public Works

ESS reviewed the San Bernardino County Department of Public Works public records portal on 13 November 2023. ESS did not identify any records for the Subject Property.

San Bernardino County Building Department

ESS reviewed records from the San Bernardino County Building Department online public records portal for records from 1987 to 2023. Records prior to 1987 were not provided by the building department without a chain of title. ESS did not identify any records for the Subject Property.

4.3.3 State Records

DTCS – Cypress Office

ESS requested records from the DTSC – Cypress Office on 13 November 2023. On 14 November 2023, the department representative informed ESS that no records were available for the Subject Property.

DTSC – Chatsworth Office

ESS requested records from the DTSC – Chatsworth Office on 13 November 2023. On 14 November 2023, the department representative informed ESS that no records were available for the Subject Property.

EnviroStor Online Database

Geosyntec searched the EnviroStor [6] online database for information relevant to the environmental condition of the Subject Property and vicinity properties. The Marine Corps Logistics Base and Reconsignment Pt Depot were identified within 1-mile of the Subject Property. These listings were identified by EDR and are discussed in Section 4.1.3.

Regional Water Quality Control Board (RWQCB) – Lahontan Region

ESS requested records from the Public Records Sections with the RWQCB on 13 November 2023. On 13 November 2023, the department representative informed ESS that all available records were on the SMARTS database. ESS identified records on the SMARTS database including stormwater discharge permits, permit application documents, and a stormwater pollution prevention plan from 2011 associated with the Union Pacific Railroad, adjacent south of the Subject Property. No other records were identified.

GeoTracker Online Database

Geosyntec searched the GeoTracker[7] online database for information relevant to the environmental condition of the Subject Property and vicinity properties. The Marine Corps Logistics Base and Shaw Property were identified within 1-mile of the Subject Property. These listings were identified by EDR and are discussed in Section 4.1.3. The Marine Corps installation has open and closed cases associated with the various Operable Units and IRP sites.

Mojave Air Quality Management District

ESS requested records from the Mojave Air Quality Management District on 15 November 2023. On 16 November 2023, the department representative informed ESS that no records were available for the Subject Property.

[6] https://www.envirostor.dtsc.ca.gov/public/
[7] https://geotracker.waterboards.ca.gov/

4.3.4 Federal Records

ECHO Online Database

The Subject Property was not identified in the ECHO[8] database. Three sites were identified within 1-mile. These sites were listed in the ECHO database for ozone and particulate matter. Based on the information provided in the database, it is unlikely that these sites have adversely impacted the Subject Property.

The Subject Property is located within 1-mile of the Marine Corps Logistics Base (Yermo Annex). The logistics base in Barstow, CA is listed on the Superfund NPL and consists of the Nebo area, Yermo area, and the Rifle Range. The Yermo annex and main base provide maintenance, repair, overhaul and rebuilding, and receiving, storing, maintaining, issuing and shipping materials. Most of the wastes historically generated by the base have been vehicle-related and war surplus. Investigations by the Marine Corps have found 38 areas of contamination on the base. Site investigations and cleanup are ongoing.

EnviroFacts Online Database

The Subject Property was not identified in the EnviroFacts[9] database. Six sites in the vicinity of the Subject Property were identified; however, none of the sites had additional information available.

4.4 Other Documents Reviewed

Geosyntec received additional reports related to the Subject Property from the User.

Phase I Environmental Site Assessment for 37265 Yermo Road by Ami Adini Environmental Services, Inc. (29 October 2022)

Ami Adini Environmental Services, Inc. (AAES), completed a Phase I ESA for the Subject Property in October of 2022. During their review, AAES identified the following as a *de minimis* condition:

- The massive releases of contaminants into the environmental at the westerly adjoining MCLB, Barstow B570, Marine Corps Logistics Base that is listed as a CERCLA site on the NPL. The Subject Property was identified to be on the edge of the contaminated groundwater plume with approximately 45 source points and treatment sites at the Marine Base. PCE was identified at significant levels on the Base. The closest source/treatment area is approximately 2,600 feet west with active air sparging and soil vapor extraction.

[8] https://echo.epa.gov/
[9] https://enviro.epa.gov/

The geology of the Subject Property is considered conducive to migration of vapors. The plumes of contamination in the soil from the marine base are limited to the proximities of their origins and present no concerns to the Subject Property. AAES identified the groundwater contamination plumes barely reach the western line of the Subject Property and groundwater is approximately 120 to 200 feet bgs. Based on the depth to groundwater, AAES determined the plume is not considered to present a threat to occupants and is unlikely to ever be a cause of enforcement actions against owners of, or occupants at the subject property. Geosyntec identified the groundwater plume to be southwest of the Subject Property boundary.

- The presence of unauthorized, illegal dumps comprised of piles of imported dirt, dilapidated household appliances, and debris in four areas on the Subject Property constituted a *de minimis* condition and AAES recommended testing the piles for hazardous substances.

AAES identified that the contamination from the marine base would normally constitute a REC per ASTM E1527-21; however, the user of their report indicated that the Subject Property would be used as a laydown area where structures would not be constructed, which eliminates the potential for vapors to intrude into occupied spaces.

Phase II Environmental Site Assessment for 37265 Yermo Road by Ami Adini Environmental Services, Inc. (22 November 2022)

In November 2022, AAES completed a Phase II ESA for the Subject Property. The four illegal dumps on the Subject Property identified during the Phase I ESA by AAES were considered a *de minimis* condition and AAES recommended sampling the piles for hazardous waste. AAES collected samples from two locations in each dump. The samples from each dump were analyzed for TPH, VOCs, metals, toxicity, and pH.

- TPH was detected in one sample. The C10-C28 range was detected at 184 mg/kg and the C28-35 range was detected at 1,100 mg/kg.

- VOCs were not detected.

- None of the detected metals exceeded it Total Threshold Limit Concentration (TTLC).

- Lead exceeded its Soluble Threshold Limit Concentration (STLC) of 5 mg/L in two samples at 15.5 mg/L and 6.46 mg/L. Lead was below the DTSC RSL in all samples. Lead did not exceed its TCLP limit of 5 mg/L.

- Arsenic did not exceed its hazardous waste threshold criteria in any of the samples; however, it tests above the RSLs and background range and the property in three samples.

- The samples did not identify the waste piles to be aquatically toxic.

AAES recommended the following actions to mitigate the Subject Property:

- Collect discarded, dilapidated objects and debris and take to a proper disposal/recycling place.
- In Dump Areas A1 (southern portion of the Subject Property) and A3 (northern portion of the Subject Property), scrape the upper foot of dirt and heap it into stockpiles. Then test the exposed surface down one foot for lead and arsenic. Repeat as needed.
- Take composite samples from the stockpiles, profile the piles in accordance with the results, and take the material to a proper landfill.
- In Dump Area A2 (northwestern corner of the Subject Property), remove the hyper-arsenic-laden soil and take it to a landfill.

Mitigation was performed by Tri-Point Construction and American Integrated Services in June 2023.

Mitigation Invoices for Transportation and Disposal for Tri-Point Construction by American Integrated Services, Inc. (28 June 2023)

Service invoices and waste manifests were sent to Tri-Point Construction from American Integrated Services, Inc. for the transportation and disposal of the illegal dump piles from 1 to 30 June 2023. These cleanup actions were performed in response to the recommendations from AAES to take the debris and discarded objects to a disposal and recycling facility. Diesel with rinsate, oily water, and general trash were removed from the Subject Property and disposed of at the World Oil Recycling Facility or Barstow Landfill, where appropriate. Geosyntec did not identify any debris or soil piles on the Subject Property during the Site reconnaissance in December 2023.

5. SUBJECT PROPERTY RECONNAISSANCE

A reconnaissance of the Subject Property was conducted in accordance with the information provided in **Table 1**. The site reconnaissance was conducted by Ms. Victoria Severin-Marshall, P.G., of Geosyntec. Ms. Severin-Marshall conducted a vehicle reconnaissance of the perimeter of the Subject Property, followed by a vehicle reconnaissance through the center of the Subject Property via rural roads. Photographs taken during the reconnaissance are included in **Appendix E**. Adjoining properties were observed from their perimeters.

The focus of the reconnaissance, was to identify evidence of hazardous substances and petroleum products used, stored, or discarded and inspected the Subject Property for areas of disturbed or discolored soil, suspect equipment, and building materials that may contain hazardous substances; areas of distressed vegetation; wastewater discharge areas; storage tanks/septic systems; waste management and disposal areas; lagoons; pits; sumps; surface water management areas; and stained surfaces. The four illegal dump piles were not identified on the Subject Property. An out-of-service aboveground storage tank, heavy machinery, and construction materials were also apparent on the southern portion of the facility in a temporary laydown yard operated by Union Pacific Railroad; however, there were no obvious evidence of staining or distressed vegetation No limiting conditions were encountered.

5.1 Utility Service and Materials Management Provider Information

The utility service and materials management providers and practices at the Subject Property are summarized (**Table 6**) from information supplied during Geosyntec's site reconnaissance.

Table 6. Subject Property Utilities and Materials Management

Utility Service/Materials Management	Service Provider
Electricity	None identified.
Natural Gas	None identified.
Sanitary wastewater disposal	None identified.
Industrial wastewater disposal	None identified.
Drinking water supply	None identified.
Irrigation water supply	None identified.
Stormwater disposal	None identified.
Solid (non-hazardous) waste disposal	None identified.
Hazardous waste disposal	None identified.
Universal waste	None identified.

5.2 Interior and Exterior Observations

Observations made during the site reconnaissance for the Subject Property are documented in **Table 7**.

5.3 Adjoining Property Reconnaissance

During the site reconnaissance, Geosyntec observed the adjoining properties from the Subject Property or public vantage points in an attempt to identify possible sources of obvious environmental impairment that could affect soil and groundwater quality at or result in vapor migration into the Subject Property as a result of surface water runoff, groundwater transport, or similar pathways. Union Pacific Railroad operates a facility located adjacent south and adjacent east to the Subject Property. Aboveground storage tanks and railcar loading infrastructure were apparent on the facility, however, there were no obvious evidence of staining or distressed vegetation from Geosyntec's vantage point along the access road. The USMC Logistics Base is located adjacent west to the Subject Property. No obvious evidence of staining or distressed vegetation were observed from Geosyntec's vantage point along Dusty Trails. Additional information regarding adjoining land use is provided in Section 2.4.

Table 7. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
Interior and Exterior Observations		
9.4.11	General Usage of Hazardous Substances and Petroleum Products	None observed during Geosyntec's site visit.
9.4.12	Aboveground Storage Tanks (ASTs)	No evidence of in use ASTs were observed during Geosyntec's site visit. An out of service AST was observed on the southern portion of the Subject Property, next to the "Temporary Union Pacific Railroad Laydown Yard".
9.4.12	Underground Storage Tanks (USTs)	No evidence of USTs was observed during Geosyntec's site visit.
9.4.13	Odors	No out of the ordinary odors were identified during the site visit.
9.4.14	Pools of Liquids	No pools of standing water were observed during the site visit.
9.4.15	Drums ≥ 5 Gallons	No drums of size less than 5 Gallons were observed during Geosyntec's site visit.
9.4.16	Hazardous Substances and Petroleum Products Containers	None observed during Geosyntec's site visit.
9.4.17	Unidentified Substances/Containers	None observed during Geosyntec's site visit.
9.4.18	Indication of PCBs	None observed during Geosyntec's site visit.

Table 7. Interior and Exterior Observations

ASTM Section E1527-21	Feature or Condition	Description
Interior Observations		
9.4.19	Heating and Cooling Systems	Not applicable - no buildings present at the Subject Property.
9.4.20	Stains/Corrosion	Not applicable - no buildings present at the Subject Property.
9.4.21	Drains and Sumps	Not applicable - no buildings present at the Subject Property.
Exterior Observations		
9.4.22	Pits, Ponds, or Lagoons	None observed during Geosyntec's site visit.
9.4.23	Stained Soil or Pavement	None observed during Geosyntec's site visit.
9.4.24	Stressed Vegetation	No obviously stressed vegetation indicative of a chemical discharge or application was observed at the Subject Property.
9.4.25	Solid Waste	None observed during Geosyntec's site visit. Geosyntec observed the areas where AAES identified four illegal dump piles and did not identify indications of the former dumps.
9.4.26	Wastewater and Stormwater Discharge	None observed during Geosyntec's site visit.
9.4.27	Wells	No supply or groundwater monitoring wells were observed on-site.
9.4.28	Septic Systems	None observed during Geosyntec's site visit.

6. INTERVIEWS

6.1 Interview with Current Owner/Occupant/User

Geosyntec did not interview the current owner of the Subject Property. The current owner provided the Site Assessment Questionnaire from the prior Phase I ESAs conducted by AAES. The owner identified the Subject Property as vacant and unused. The Marine Base to the west of the Subject Property was identified for current and historical industrial use. According to the owner, there were two former residences on the Subject Property in the 1950s and 1970s. No other information was provided in the questionnaire received from the owner of the Subject Property.

6.2 Interview with Previous Owner/Occupant

Geosyntec requested but was not provided with contact information for previous owners/operators of the Subject Property. Interviews with prior owners and occupants were not conducted as part of this assessment. This is considered a data gap (see Section 7).

6.3 Interview with Local Agencies

Geosyntec contacted local and county agencies via telephone or electronic mail to ask whether they possessed relevant records regarding the Subject Property, as discussed in Section 4.3.

7. FINDINGS AND CONCLUSIONS

Geosyntec has conducted a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property located at 37265 Yermo Road in Yermo, California. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report.

Following the Findings and Opinions section (Section 7.1), we present identified data gaps and conclusions (Sections 7.2 and 7.3) regarding any identified RECs, Controlled (CRECs), Historical RECs (HRECs), or de *minimis conditions* associated with the Subject Property.

7.1 Findings and Opinions

This assessment has revealed several findings that could represent an environmental condition on the Subject Property. Each finding and our opinion relative to its significance as an environmental condition is discussed below.

Recognized Environmental Conditions (RECs)

As defined by ASTM E1527-21, a REC is: *"(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment."*

- No RECs were identified during this Phase I ESA.

Controlled Recognized Environmental Conditions

A CREC is a "*recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).*"

- **Barstow Marine Corps Logistics Base (Yermo Annex)** is located approximately 2,900 feet west of the Subject Property, hydraulically upgradient. The annex is listed in the NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CONTROLS, UST INST CONTROLS, ENVIROSTOR, ROD, RAATS, PFAS NPL, and HWP databases. Barstow Marine Corps Logistics Base is an active military installation and is listed on the National Priorities List for trichloroethylene (TCE) contamination in groundwater. Solvent wastes, including TCE, were apparently generated in substantial quantities at the facility. The quantities of solvents used, stored, and discharge onsite are unknown and most of the wastes historically generated have been vehicle related (oils, grease, hydraulic fluids, fuels, battery acids,

antifreeze, bilge waters, paints, degreasers and solvents) and war surplus (ammunition, various sources of low-level radiation, and chemicals including pesticides). Past disposal practices include landfills, spills, onsite burning, and surface impoundments. VOCs have been detected in the Base's groundwater. The potential threat to the public health and environment includes migration of heavy metals, organic compounds, poly chlorinated biphenyls, and TCE to the groundwater. Remedial activities are currently conducted under direction of the Department of Toxic Substances Control (DTSC) and Lahontan Regional Water Quality Control Board (RWQCB). Geosyntec identified the groundwater plume to extend from the Base to the east; however, the plume is located southwest of the Subject Property. Due to ongoing cleanup, regulatory activities, and the characterized and delineated groundwater plume, this finding is considered a CREC.

Historical Recognized Environmental Conditions

An HREC is "*a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations. A historical recognized condition is not a recognized environmental condition.*"

- **Illegal Dump Piles**: Ami Adini Environmental Services (AAES) identified four illegal dump areas on the Subject Property in October 2022. These dump piles consisted of imported dirt, dilapidated household appliances, and debris. AAES sampled the dumps prior to removal and identified TPH, arsenic, and lead in the material piles. The debris and imported soil were removed from the Subject Property in June 2023 by Tri-Point Construction and American Integrated Services. Geosyntec did not identify any evidence of the illegal dump areas on the Subject Property during the Site Reconnaissance.

De Minimis Conditions

A *de minimis* condition is "a condition *related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a de minimis condition is not a recognized environmental condition nor a controlled recognized environmental condition.*".

Based on the information Geosyntec obtained, Geosyntec has concluded that the following findings do not meet the definition of a REC, CREC or HREC and are therefore *de minimis* conditions:

- No *de minimis* conditions were identified during this Phase I ESA.

Additional Findings

Per ASTM E1527-21, *"[s]ome findings, but not necessarily all findings, may be indicative of the presence of"* RECs, CRECs, HRECs, or *de minimis* conditions, while other findings may not be indicative as characterized above. These findings that do not fall within the defined characterizations above are therefore considered as additional findings and not classified above.

- **Vicinity Rail Yard:** The Union Pacific Railroad Yard is located directly south of the Subject Property, across Marine Road and Jellico Street. Railroads are often associated with the use of pesticides and herbicides for rodent and vegetation control, petroleum products, and creosote rail ties. No records were found which indicated environmental releases have occurred or contamination is present as a result of this feature.

Data Gaps

In accordance with ASTM E1527-21, this section documents data gaps in the information obtained and reviewed as part of this Phase I ESA and discusses the associated significance. A data gap is defined as being "*a lack of or inability to obtain information required by this practice [ASTM E1527-21] despite good faith efforts by the environmental professional to gather such information*". A significant data gap is defined as "*a data gap that affects the ability of the environmental professional to identify*" a REC.

Identified data gaps are presented below:

- ASTM E1527-21 states that "*interviews with past owners, operators, and occupants of the property who are likely to have material information regarding the potential for contamination at the property shall be conducted to the extent that they have been identified."* Geosyntec was not provided with and did not identify owner contact information prior to the current Subject Property owner.

- ASTM E1527-21 states that "*all obvious uses of the subject property shall be identified from the present, back to the property's first developed use, or back to 1940, whichever is earlier" using standard historical sources "at five-year intervals."* Despite efforts to do so, additional historical aerial photographs were not identified at five-year intervals between 1952 and 2005. This is considered a data failure; however, we do not consider this data failure to be significant.

Collectively, these data gaps are not considered to be significant to the Findings or the identification of RECs because sufficient information was obtained from other sources that has been used to inform our opinion.

7.2 Conclusions

Geosyntec has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property located at 37265 Yermo Road, Yermo, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of RECs, but has revealed evidence of one CREC and in connection with the Subject Property. No *significant* data gaps were identified.

8. NON-SCOPE CONSIDERATIONS

This section presents client-requested non-scope considerations for additional due diligence that exceed AAI requirements as previously described in Section 1.4. No non-scope considerations were requested as part of this scope of work.

9. REFERENCES

ASTM. 2021. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment. E1527-21.

EDR. 2023a. *Fire Insurance Map Research Results.* Environmental Risk Information Services. November 13.

EDR. 2023b. *Topographic Map Research Results*. November 13.

EDR. 20232c. *Historical Aerial Report*. November 13.

EDR. 2023d. *Physical Setting Report*. November 13.

EDR. 2023e. *City Directory Report*. November 15.

EDR. 2023f. *Database Report.* November 13.

10. ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental professional as defined in §312.10 of 40 CFR Part 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

DRAFT

_____

Signed by Veryl Wittig - Geosyntec Consultants

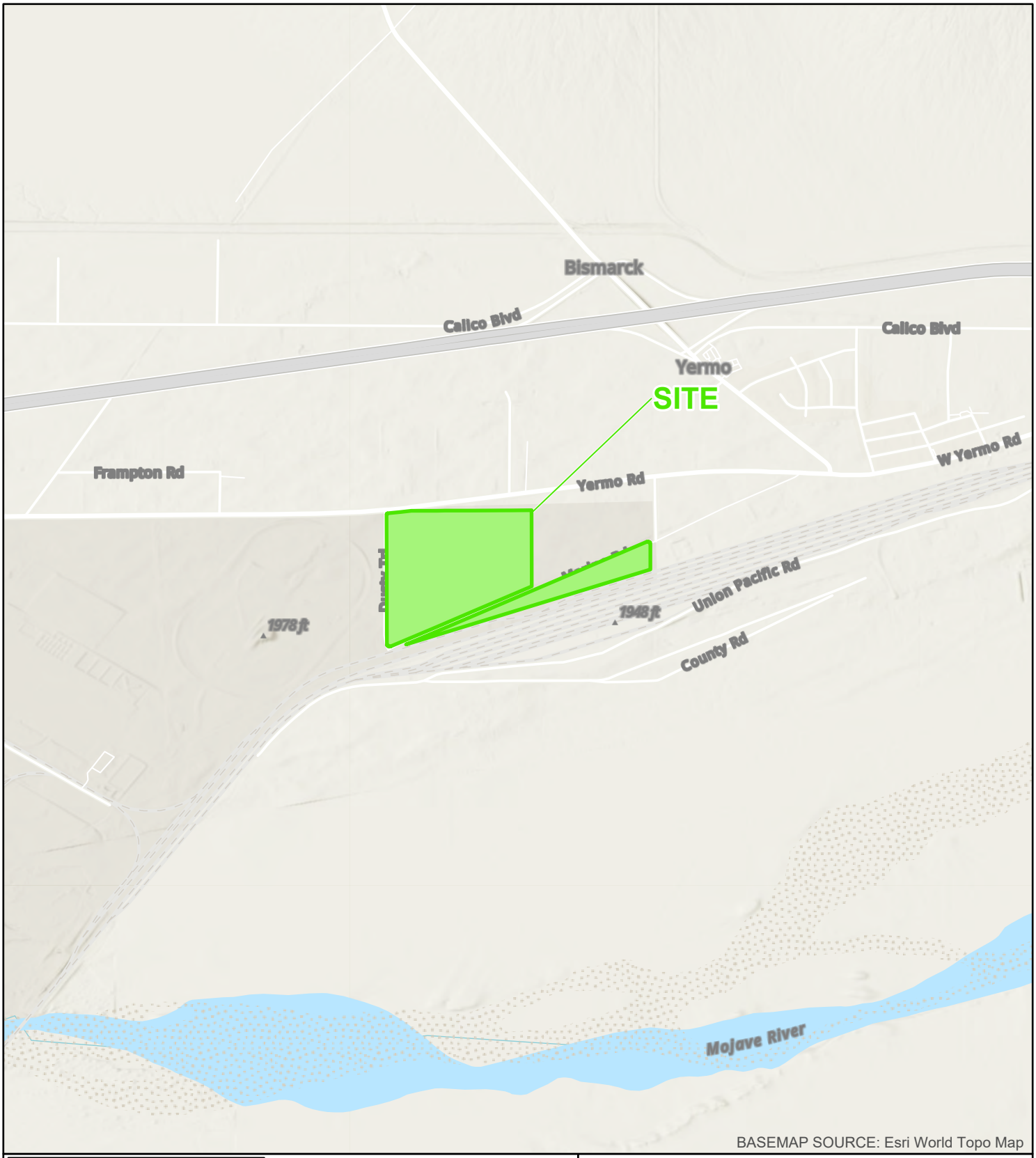
The qualifications of the above-signed professional are included in Section 11.

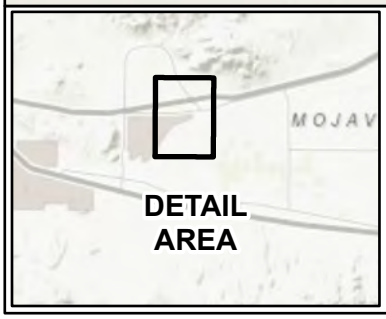
11. QUALIFICATIONS OF STAFF

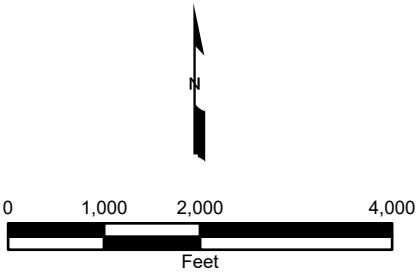
Veryl Wittig, PG, CHG

Mr. Wittig is a Senior Principal Hydrogeologist with more than 30 years of diverse experience in planning, conducting, and managing multi-disciplinary due diligence projects involving Phase I Environmental Site Assessments (ESAs), contaminant investigations, vapor intrusion studies, human health risk assessments, engineering feasibility studies, environmental liability evaluations, mitigation of environmentally impaired properties, regulatory coordination, and litigation support for a variety of private and public sector clients. Mr. Wittig has conducted and/or managed more than 300 Phase I ESAs throughout the USA and northern Mexico between 1992 and the present in accordance with ASTM standards to evaluate the presence of Recognized Environmental Conditions (RECs) associated with the subject properties. The Phase I ESAs have involved a variety of complexities and property usages ranging from rural native land to highly-impacted industrial properties with more than a century of historical activity. Mr. Wittig earned a Bachelors degree in Geological Sciences (Hydrogeology Emphasis) from San Diego State University in 1991.

Figures







Site Location

37265 Yermo Rd
Yermo, California

Geosyntec consultants

San Diego | December 2023

Figure 1

\\az-ctxfs-t3\SDC\PRJ\SC1427_Yermo\PROJECT\SC1427_Yermo.aprx 12/19/2023 Matthew.Murchison

Golden
I- 15 Mojave Fwy
I- 15 Mojave Fwy
Mule Canyon Rd
Frampton Rd
Yermo Rd
Nugget Rd
Holman Ln
Nugget Rd
Frontier Ave
Hilda Rd
Jellico St
Jellico St
Telstar Ct
Calico Rd
Grandview Ave
Fairway Ave
Dividing Line St
Dusty Trl
Athletic Field Rd
Marine Rd
Union Pacific Dr
Union Pacific Rd
Bedford Rd
Athletic Field Rd
F St
E St
14th St
13th St
12th St
15th St
16th St
17th St
18th St
19th St
MARINE CORPS MOUNTED COLOR GUARD
PRODUCTION PLANT BARSTOW
UNION PACIFIC RAILROAD YARD
Agate Rd
D St
C St
20th St
21st St
bing
IMAGERY SOURCE: Bing Maps Imagery

ABOVEGROUND STORAGE TANKS
PARCEL BOUNDARY
SITE BOUNDARY

N

0 625 1,250 2,500
Feet

Site Vicinity

37265 Yermo Rd
Yermo, California

Geosyntec consultants

San Diego | December 2023

Figure 2

\\az-ctxfs-t3\SDC\PRJ\SC1427_Yermo\PROJECT\SC1427_Yermo.aprx\SC1427_Yermo_PIESA_Fig2_Vic 12/19/2023 8:19 PM Matthew.Murchison

Holman Ln
Yermo Rd
Athletic Field Rd
Hilda Rd
Jellico St
053707115
053707117
053707119
053707116
Marine Rd
Union Pacific Dr
Dusty Trl
Bedford Rd
Athletic Field Rd
bing
IMAGERY SOURCE: Bing Maps Imagery

ABOVEGROUND STORAGE TANKS
PARCEL BOUNDARY
SITE BOUNDARY
TEMPORARY LAYDOWN YARD OPERATED BY UNION PACIFIC RAILROAD

N

0 150 300 600
Feet

Site Layout

37265 Yermo Rd
Yermo, California

Geosyntec consultants

San Diego | December 2023

Figure
3

\\az-ctxfs-t3\SDC\PRJ\SC1427_Yermo\PROJECT\SC1427_Yermo.aprx\SC1427_Yermo_PIESA_Fig3_Lay 12/19/2023 8:19 PM Matthew.Murchison

Appendix A

THIS MAP IS FOR THE PURPOSE OF AD VALOREM TAXATION ONLY.

S.1/2 Fractional Sec.2, T.9N.,R.1E., S.B.B.&M.

Silver Valley Unified 0537 - 07
Tax Rate Area
109070,109078

1" = 400'

11 10 09 08

W.1/4. COR. M.B. 56/87

50.50 YERMO (ST. HWY) (31) (91) (U.S. 466)

ROAD SEC. C.1/4

285.42 314.48 420.06 740.12 1460

60 RAIL 36.52

Par. 1
15
23.64 AC.

939.08 1000.79 1511.18

P.M. 151/17-18

Par. 3
17
22.3 AC.

1132.77

Par. 4
18
24.59 AC.

40 365.01 STREET

38.37 ROAD 90 71.59 379.08 40

JELLICO 19

1619.48

109078

Par. 5
19
15.19 AC.

100/100

3321.63

831.88

9652/1404

12.21 AC. 04 109070 109078

3203.17

6.14 AC. 03

1040

2047.93

071

Par. 2
16
18.24 AC.

510.39

14
110.29 AC.

06

986.77

DUSEY

60 MARINE

71.57 MAP 843-36-7A

1111.64 T.R.A.

PAR. NO. 10

MAP 843-36-8A

MAP 843-36-8 PAR. NO. 1 T.R.A.

(T.A.) (&) (S.L.) U.P. R.R.

100 PAR. NO. 7 07 1.92 AC.

MAP 843-36-7 PAR. NO. 6 06 4.19 AC.

T.R.A.

08
30.37 AC.
MAP 843-36-8D
PAR. NO. 19

11
11.88 AC.
MAP 843-36-8D
PAR. NO. 20

10
11.94 AC.
MAP 843-36-8D
PAR. NO. 21

20

824.84 445.1 COUNTY

100/100 433.78 MAP 843-36-7C PAR. NO. 11 13 6.13 AC.

1164.83 S.1/4 COR. ROAD

0516/32

July 2005

Parcel Map No. 11618, P.M. 151/17-18

REVISED
06/03/11 GW-MC

Assessor's Map
Book 0537 Page 07
San Bernardino County

Appendix B

Yermo Phase I
37265 Yermo Road
Yermo, CA 92398

Inquiry Number: 7495670.2s
November 13, 2023

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	148
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA) INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

37265 YERMO ROAD
YERMO, CA 92398

COORDINATES

Latitude (North):	34.8985000 - 34° 53' 54.60''
Longitude (West):	116.8457480 - 116° 50' 44.69''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	514093.4
UTM Y (Meters):	3861600.8
Elevation:	1948 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50005019 YERMO, CA
Version Date:	2021

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200523
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
37265 YERMO ROAD
YERMO, CA 92365

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	YERMO AREA		DOD	Same	49, 0.009, West
Reg	BARSTOW MARINE CORPS	MARINE CORPS LOGIS B	NPL, SEMS, CORRACTS, RCRA-LQG, US ENG CONTROLS, US	Same	1 ft.
1	YERMO CALIFORNIA CLA	MARINE ROAD	CIWQS	Higher	1 ft.
2	SPRINT-YERMO REGENER	36992 YERMO RD	San Bern. Co. Permit	Lower	82, 0.016, NNW
3	YERMO RAIL YARD	YERMO RAIL YARD	CPS-SLIC	Lower	444, 0.084, ESE
A4	HOLDING AND RECONSIG		FUDS	Lower	919, 0.174, East
A5	RECONSIGNMENT PT DEP		ENVIROSTOR	Lower	943, 0.179, East
6	ABANDONED TANK	37613 YERMO RD	LUST, Cortese, San Bern. Co. Permit, CERS	Lower	2146, 0.406, ENE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

Proposed NPL ---- Proposed National Priority List Sites
NPL LIENS ---- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---- Federal Facility Site Information listing

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---- Superfund Enterprise Management System Archive

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-SQG ---- RCRA - Small Quantity Generators
RCRA-VSQG ---- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---- Land Use Control Information System

Federal ERNS list

ERNS ---- Emergency Response Notification System

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ---- State Response Sites

EXECUTIVE SUMMARY

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ---------- Solid Waste Information System

Lists of state and tribal leaking storage tanks

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---------- California Environmental Reporting System Hazardous Waste
US CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---------- SWEEPS UST Listing

HIST UST	Hazardous Substance Storage Container Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
RMP	Risk Management Plans
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
MINES MRDS	Mineral Resources Data System
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing

PFAS FEDERAL SITES - Federal Sites PFAS Information
PFAS TSCA - PFAS Manufacture and Imports Information
PFAS TRIS - List of PFAS Added to the TRI
PFAS RCRA MANIFEST - PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR - PFAS Contamination Site Location Listing
PFAS WQP - Ambient Environmental Sampling for PFAS
PFAS NPDES - Clean Water Act Discharge Monitoring Information
PFAS ECHO - Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING - Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT - All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC - Aqueous Foam Related Incidents Listing
BIOSOLIDS - ICIS-NPDES Biosolids Facility Data
PFAS - PFAS Contamination Site Location Listing
AQUEOUS FOAM - Former Fire Training Facility Assessments Listing
CA BOND EXP. PLAN - Bond Expenditure Plan
CHROME PLATING - Chrome Plating Facilities Listing
CUPA Listings - CUPA Resources List
DRYCLEANERS - Cleaner Facilities
EMI - Emissions Inventory Data
ENF - Enforcement Action Listing
Financial Assurance - Financial Assurance Information Listing
ICE - Inspection, Compliance and Enforcement
HIST CORTESE - Hazardous Waste & Substance Site List
HWT - Registered Hazardous Waste Transporter Database
HWTS - Hazardous Waste Tracking System
HAZNET - Facility and Manifest Data
MINES - Mines Site Location Listing
MWMP - Medical Waste Management Program Listing
NPDES - NPDES Permits Listing
PEST LIC - Pesticide Regulation Licenses Listing
PROC - Certified Processors Database
Notify 65 - Proposition 65 Records
HAZMAT - Hazardous Material Facilities
UIC - UIC Listing
UIC GEO - UIC GEO (GEOTRACKER)
WASTEWATER PITS - Oil Wastewater Pits Listing
WDS - Waste Discharge System
WIP - Well Investigation Program Case List
MILITARY PRIV SITES - MILITARY PRIV SITES (GEOTRACKER)
PROJECT - PROJECT (GEOTRACKER)
WDR - Waste Discharge Requirements Listing
CERS - CERS
NON-CASE INFO - NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS - OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS - PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT - SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ - Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP - EDR Proprietary Manufactured Gas Plants
EDR Hist Auto - EDR Exclusive Historical Auto Stations

EXECUTIVE SUMMARY

EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 09/19/2023 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS Cerclis ID:: 902790 EPA Id: CA8170024261	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***

Lists of Federal sites subject to CERCLA removals and CERCLA orders

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 09/19/2023 has revealed that there is 1 SEMS

site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
Site ID: 0902790				
EPA Id: CA8170024261				

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 07/24/2023 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID:: CA8170024261				

Lists of Federal RCRA generators

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 07/24/2023 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID:: CA8170024261				

Federal institutional controls / engineering controls registries

US ENG CONTROLS: A listing of sites with engineering controls in place.

A review of the US ENG CONTROLS list, as provided by EDR, and dated 08/21/2023 has revealed that there is 1 US ENG CONTROLS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID:: CA8170024261				

EPA ID:: CA8170024261

US INST CONTROLS: A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

A review of the US INST CONTROLS list, as provided by EDR, and dated 08/21/2023 has revealed that there is 1 US INST CONTROLS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID:: CA8170024261				

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/24/2023 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
Facility Id: 80001276				
Status: Refer: Other Agency				

Lower Elevation	Address	Direction / Distance	Map ID	Page
RECONSIGNMENT PT DEP		E 1/8 - 1/4 (0.179 mi.)	A5	140
Facility Id: 80000734				
Status: Inactive - Needs Evaluation				

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there is 1 LUST site within

approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ABANDONED TANK	***37613 YERMO RD***	***ENE 1/4 - 1/2 (0.406 mi.)***	***6***	***141***
Database: LUST, Date of Government Version: 06/05/2023				
Status: Completed - Case Closed				
Global Id: T0607122555				

CPS-SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the CPS-SLIC list, as provided by EDR, has revealed that there is 1 CPS-SLIC site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
YERMO RAIL YARD	YERMO RAIL YARD	ESE 0 - 1/8 (0.084 mi.)	3	138
Database: SLIC REG 6V, Date of Government Version: 05/24/2005				
Facility Id: SL0607128737				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 08/07/2023 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
HOLDING AND RECONSIG		E 1/8 - 1/4 (0.174 mi.)	A4	139

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 06/07/2021 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
YERMO AREA		W 0 - 1/8 (0.009 mi.)	0	9

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 09/19/2023 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID:: CA8170024261				

RAATS: The RCRA Administration Action Tracking System contains records based on enforcement actions issued under RCRA and pertaining to major violators. It includes administrative and civil actions brought by the United States Environmental Protection Agency. The source of this database is the U.S. EPA.

A review of the RAATS list, as provided by EDR, and dated 04/17/1995 has revealed that there is 1 RAATS site within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
Status: 20				
Facility ID: CA8170024261				

PFAS NPL: EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

A review of the PFAS NPL list, as provided by EDR, and dated 07/05/2023 has revealed that there is 1 PFAS NPL site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 06/14/2023 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ABANDONED TANK	***37613 YERMO RD***	***ENE 1/4 - 1/2 (0.406 mi.)***	***6***	***141***
Cleanup Status: COMPLETED - CASE CLOSED				

EXECUTIVE SUMMARY

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 08/14/2023 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BARSTOW MARINE CORPS	***MARINE CORPS LOGIS B***	***0 - 1/8 (0.000 mi.)***	***0***	***9***
EPA ID: CA8170024261				
Cleanup Status: PROTECTIVE FILER				

San Bern. Co. Permit: San Bernardino County Fire Department Hazardous Materials Division.

A review of the San Bern. Co. Permit list, as provided by EDR, and dated 08/15/2023 has revealed that there is 1 San Bern. Co. Permit site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SPRINT-YERMO REGENER	36992 YERMO RD	NNW 0 - 1/8 (0.016 mi.)	2	138
Facility Status: INACTIVE				
Facility Id: FA0006361				

CIWQS: The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

A review of the CIWQS list, as provided by EDR, and dated 05/25/2023 has revealed that there is 1 CIWQS site within approximately 0.001 miles of the target property.

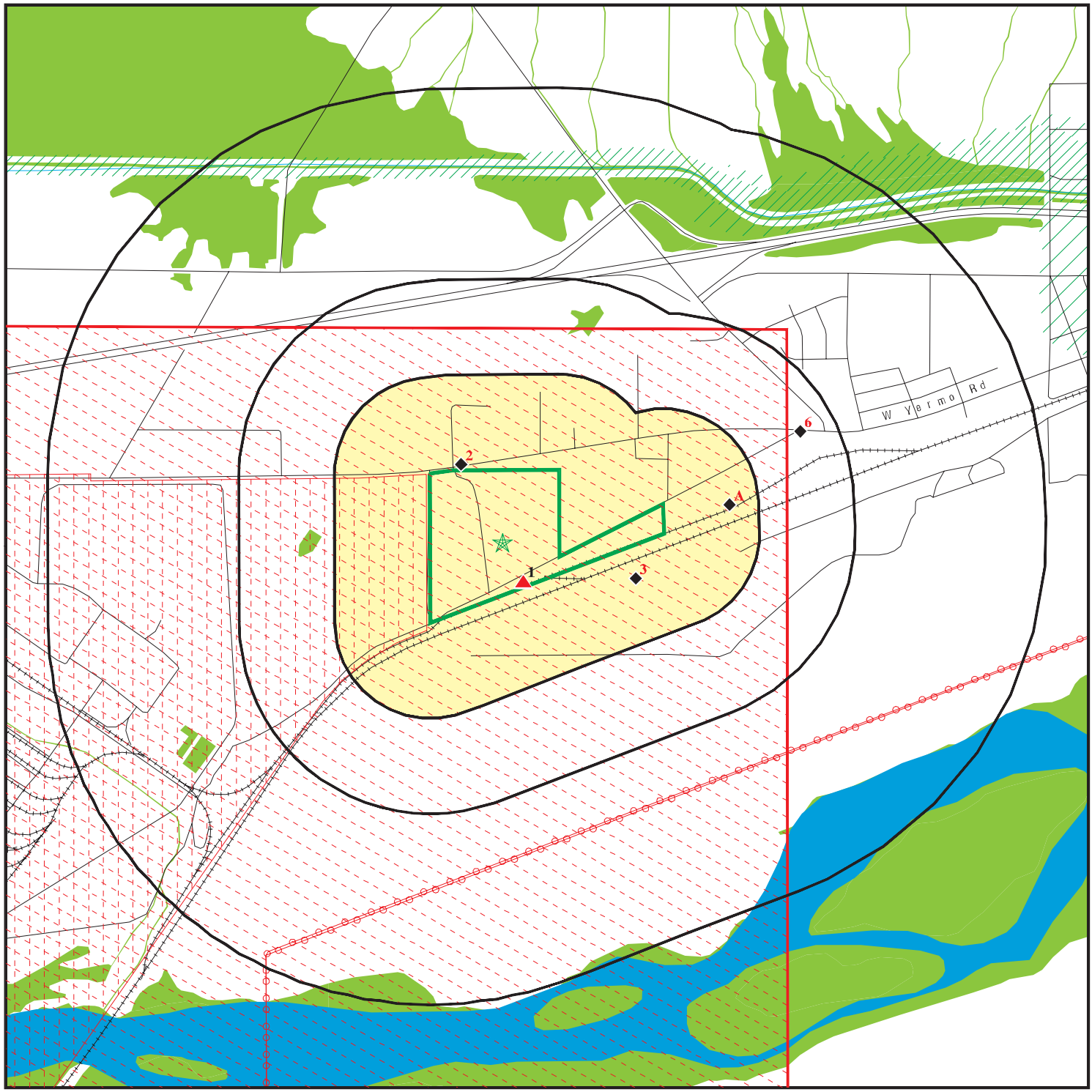
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
YERMO CALIFORNIA CLA	MARINE ROAD	0 - 1/8 (0.000 mi.)	1	137

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
MIKHAN INC	LUST, HIST CORTESE
	CDL
	CDL

OVERVIEW MAP - 7495670.2S



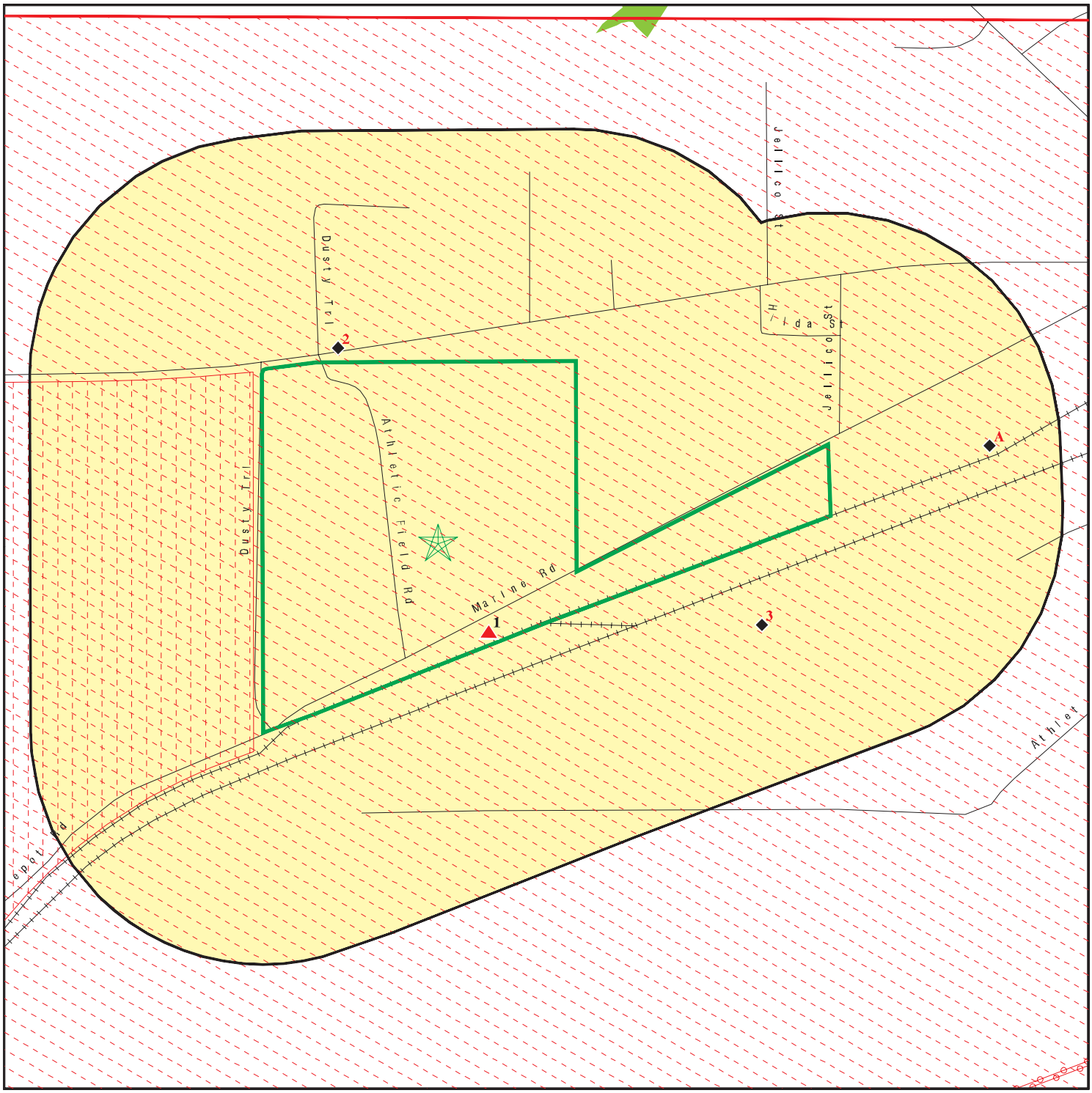
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Yermo Phase I	CLIENT: GeoSyntec Consultants
ADDRESS: 37265 Yermo Road Yermo CA 92398	CONTACT: Victoria Severin
LAT/LONG: 34.8985 / 116.845748	INQUIRY #: 7495670.2s DATE: November 13, 2023 12:02 pm

Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 7495670.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/8 1/4 1/2 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Yermo Phase I	CLIENT: GeoSyntec Consultants
ADDRESS: 37265 Yermo Road Yermo CA 92398	CONTACT: Victoria Severin
LAT/LONG: 34.8985 / 116.845748	INQUIRY #: 7495670.2s DATE: November 13, 2023 12:03 pm

Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		1	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		1	0	0	NR	NR	1
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		1	0	0	0	NR	1
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		1	0	0	NR	NR	1
US INST CONTROLS	0.500		1	0	0	NR	NR	1
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		1	1	0	0	NR	2
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	1	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		1	0	0	NR	NR	1
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	1	0	0	NR	1
DOD	1.000		1	0	0	0	NR	1
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		1	0	0	0	NR	1
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		1	NR	NR	NR	NR	1
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		1	0	NR	NR	NR	1
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	1	NR	NR	1
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		1	0	0	0	NR	1
HWT	0.250		0	0	NR	NR	NR	0
HWTS	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
San Bern. Co. Permit	0.250		1	0	NR	NR	NR	1
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		1	NR	NR	NR	NR	1
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	15	2	2	0	0	19

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

DOD **YERMO AREA** **DOD** **CUSA401111**
Region **N/A**
West
, CA
< 1/8
49 ft.

DOD:
Site Name: YERMO AREA
DOD Component: MC Active
Joint Base: N/A
Operating Status: ACT (Active): Site has an on-going operational/support mission (s).

NPL **BARSTOW MARINE CORPS LOGISTICS BASE** **NPL** **1000389921**
Region **MARINE CORPS LOGIS BASE- NEBO** **SEMS** **CA8170024261**
BARSTOW, CA 92311 **CORRACTS**
< 1/8 **RCRA-LQG**
1 ft. **US ENG CONTROLS**
US INST CONTROLS
ENVIROSTOR
ROD
RAATS
PFAS NPL
HWP

NPL:
EPA Region: 9
EPA ID: CA8170024261
Site ID: 902790
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
Federal: Y
Final Date: 1989-11-21 00:00:00
Latitude: 34.878331
Longitude: -116.9389
Site Score: 37.93
NAI: Not reported
Native American Entity: Not reported

Substance as of 08/2019:
NPL Status: Currently on the Final NPL
Substance ID: Not reported
CAS Number: Not reported
Substance: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: U228
CAS Number: 79-01-6
Substance: TRICHLOROETHYLENE (TCE)
Pathway: GROUND WATER PATHWAY
Scoring: 4

Summary Details:

Conditions at proposal July 14, 1989): The Barstow Marine Corps Logistics Base is in San Bernardino County, California. It is in the Mojave Desert and adjacent to the Mojave River. A portion of the base, the 1,568-acre Nebo Area, is approximately 1 mile east of the City of Barstow. It has been used for maintenance, repair, and rebuilding of supplies and equipment for the

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Marine Corps since 1942. Solvent wastes, including trichloroethylene TCE), were apparently generated in substantial quantities in the Nebo Area facility. Due to the lack of records, the quantities of solvents used, stored, and discharged on-site are unknown. The same activities were conducted at the 1,681-acre Yermo Area, 6 miles east of Nebo.Barstow Marine Corps Logistics Base is participating in the Installation Restoration Program IRP), established in 1978. Under this program, the Department of Defense seeks to identify, investigate, and clean up contamination from ha ardous materials. Monitoring wells at both Nebo and Yermo are contaminated with TCE, according to tests conducted in 1984-85 as part of IRP studies and by the U.S. Geological Survey. Public wells within 3 miles of ha ardous substances at the basesupply drinking water to an estimated 28,700 residents of the city of Barstow and outlying areas. The Marine Corps has completed an initial assessment/site inspection and is planning a remedial investigation/feasibility study to determinethe type and extent of contamination and identify alternatives for remedial action at both the Nebo and Yermo areas. An activated carbon system for treating contaminated drinking water wells at Yermo is scheduled to be installed in July 1989.Status November 21, 1989): The activated carbon system is now operating.

Category as of 08/2019:
- NPL Status: Currently on the Final NPL
- Category Description: Depth To Aquifer-> 10 And <= 25 Feet
- Category Value: 18

- NPL Status: Currently on the Final NPL
- Category Description: Distance To Nearest Population-> 0 And <= 1/4 Mile
- Category Value: 10

Narratives as of 08/2019:
- NPL Name: BARSTOW MARINE CORPS LOGISTICS BASE

Site as of 08/2019:
- EPA Region: 09
- Site ID: 0902790
- Site Status: F
- Federal Site: Y
- Date Deleted: Not reported
- Date Finalized: 11/21/89
- Date Proposed: 07/14/89

Site Status as of 08/2019:
- Proposed Date: 07/14/1989
- Final Date: 11/21/1989
- Deleted Date: Not reported
- NPL Status: Final

Narr:
- Site Name: Barstow Marine Corps Logistics Base
- Site EPA ID: CA8170024261
- Listing Date: 11/21/1989
- Site Score: 37.93
- Federal Facility Indicator: Yes
- Site List URL: https://semspub.epa.gov/src/document/09/2400142
- Site Progress URL: https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0902790

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Federal Register URL: https://semspub.epa.gov/src/document/11/189634
Site Location URL: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1&query=Superfund_National_Priorities_List__NPL__Sites_with_Status_Information_7557,SITE_EPA_ID=%27CA8170024261%27

SEMS:
Site ID: 0902790
EPA ID: CA8170024261
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
Address 2: Not reported
City,State,Zip: BARSTOW, CA 92311
Cong District: 08,40
FIPS Code: 06071
Latitude: 34.878331
Longitude: -116.938900
FF: Y
NPL: Currently on the Final NPL
Non NPL Status: Not reported

SEMS Detail:
Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 00
Action Code: NF
Action Name: NPL FINL
SEQ: 1
Start Date: 1989-11-21 05:00:00
Finish Date: 1989-11-21 05:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 00
Action Code: NP
Action Name: PROPOSED
SEQ: 1
Start Date: 1989-07-14 04:00:00
Finish Date: 1989-07-14 04:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

FF:	Y
OU:	00
Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1989-07-14 04:00:00
Finish Date:	1989-07-14 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LV
Action Name:	FF RV
SEQ:	6
Start Date:	1995-10-27 04:00:00
Finish Date:	1998-04-23 04:00:00
Qual:	P
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	LX
Action Name:	FF RD
SEQ:	2
Start Date:	1997-09-03 04:00:00
Finish Date:	1998-04-07 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	3
Start Date:	1990-09-28 04:00:00
Finish Date:	1998-01-23 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	RO
Action Name:	ROD
SEQ:	2
Start Date:	1997-06-03 04:00:00
Finish Date:	1997-06-03 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1986-01-01 05:00:00
Finish Date:	1986-05-01 04:00:00
Qual:	H
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	LV
Action Name:	FF RV
SEQ:	7
Start Date:	1997-07-22 04:00:00
Finish Date:	1997-08-21 04:00:00
Qual:	C
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	1
Start Date:	1992-11-24 05:00:00
Finish Date:	1993-06-14 04:00:00
Qual:	S
Current Action Lead:	Fed Fac

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 07
Action Code: LW
Action Name: FF RI/FS
SEQ: 5
Start Date: 1990-09-28 04:00:00
Finish Date: 2014-11-18 05:00:00
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 00
Action Code: LV
Action Name: FF RV
SEQ: 2
Start Date: 1993-07-19 04:00:00
Finish Date: 1993-08-18 04:00:00
Qual: C
Current Action Lead: Fed Fac

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 00
Action Code: LV
Action Name: FF RV
SEQ: 5
Start Date: 1995-07-21 04:00:00
Finish Date: 1995-08-04 04:00:00
Qual: S
Current Action Lead: Fed Fac

Region: 09
Site ID: 0902790
EPA ID: CA8170024261
Site Name: BARSTOW MARINE CORPS LOGISTICS BASE
NPL: F
FF: Y
OU: 01
Action Code: LW
Action Name: FF RI/FS
SEQ: 1
Start Date: 1990-09-28 04:00:00
Finish Date: 1998-04-22 04:00:00

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	RO
Action Name:	ROD
SEQ:	9
Start Date:	2006-09-28 04:00:00
Finish Date:	2006-09-28 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	LX
Action Name:	FF RD
SEQ:	3
Start Date:	1998-09-18 04:00:00
Finish Date:	1999-01-18 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	LY
Action Name:	FF RA
SEQ:	2
Start Date:	1998-09-27 04:00:00
Finish Date:	2000-08-28 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	LY
Action Name:	FF RA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

SEQ:	3
Start Date:	1999-05-21 04:00:00
Finish Date:	2002-06-10 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	1
Start Date:	1998-04-22 04:00:00
Finish Date:	1998-04-22 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	RO
Action Name:	ROD
SEQ:	3
Start Date:	1998-01-23 05:00:00
Finish Date:	1998-01-23 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	07
Action Code:	LY
Action Name:	FF RA
SEQ:	5
Start Date:	2019-04-30 05:00:00
Finish Date:	2020-09-30 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

OU:	01
Action Code:	OM
Action Name:	OM
SEQ:	1
Start Date:	2006-09-28 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	2
Start Date:	1990-09-28 04:00:00
Finish Date:	1997-06-03 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	04
Action Code:	OM
Action Name:	OM
SEQ:	2
Start Date:	2000-08-28 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	06
Action Code:	OM
Action Name:	OM
SEQ:	3
Start Date:	2002-06-10 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0902790
EPA ID:	CA8170024261

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LY
Action Name:	FF RA
SEQ:	1
Start Date:	1998-04-23 04:00:00
Finish Date:	2006-09-28 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	07
Action Code:	RO
Action Name:	ROD
SEQ:	5
Start Date:	2014-11-18 05:00:00
Finish Date:	2014-11-18 05:00:00
Qual:	R
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1986-06-01 04:00:00
Finish Date:	1986-06-01 04:00:00
Qual:	H
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	07
Action Code:	LX
Action Name:	FF RD
SEQ:	5
Start Date:	2014-10-01 05:00:00
Finish Date:	2019-04-30 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	4
Start Date:	1994-08-22 04:00:00
Finish Date:	1994-08-26 04:00:00
Qual:	P
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LX
Action Name:	FF RD
SEQ:	1
Start Date:	1998-11-25 05:00:00
Finish Date:	2002-07-29 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	3
Start Date:	1994-07-18 04:00:00
Finish Date:	1994-08-23 04:00:00
Qual:	P
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0902790
EPA ID:	CA8170024261
Site Name:	BARSTOW MARINE CORPS LOGISTICS BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-11-01 05:00:00
Finish Date:	1980-11-01 05:00:00

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Qual: Not reported
Current Action Lead: Fed Fac

CORRACTS:
Name: MCLB,BARSTOW [B570] NEBO
Address: BLDG. 196 MARINE CORPS LOGISTICS BASE
Address 2: BOX 110570, ATTN: ENVIRONMENTAL DIVISION
EPA ID: CA8170024261
Area Name: ENTIRE FACILITY
Corrective Action: CA PRIORITIZATION-HIGH CA PRIORITY
Actual Date: 19941209
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

RCRA Listings:
Date Form Received by Agency: 20220224
Handler Name: Mclb,Barstow [B570] Nebo
Handler Address: MARINE CORPS LOGISTICS BASE
Handler City,State,Zip: BARSTOW, CA 92311-0570
EPA ID: CA8170024261
Contact Name: MIGUEL ARANDAGUILLEN
Contact Address: MARINE CORPS LOGISTICS BASE
Contact City,State,Zip: BARSTOW, CA 92311-0570
Contact Telephone: 760-403-4494
Contact Fax: Not reported
Contact Email: MIGUEL.ARANDAGUILLEN@USMC.MIL
Contact Title: ENVIRONMENTAL PROTECTION SPECIALIST
EPA Region: 09
Land Type: Federal
Federal Waste Generator Description: Large Quantity Generator
Non-Notifier: Not reported
Biennial Report Cycle: 2021
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: MARINE CORPS LOGISTICS BASE
Mailing City,State,Zip: BARSTOW, CA 92311-0570
Owner Name: Col. Gregory B. Pace
Owner Type: Federal
Operator Name: Miguel Arandaguillen
Operator Type: Federal
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No
Small Quantity On-Site Burner Exemption: No
Smelting Melting and Refining Furnace Exemption: No
Underground Injection Control: No
Off-Site Waste Receipt: No
Universal Waste Indicator: No

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	The land is federally-owned, The site is federally-owned, The site is federally-operated
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	High
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20220627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2021

Click Here for Biennial Reporting System Data:
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D001

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D003
Waste Description:	Reactive Waste
Waste Code:	D004
Waste Description:	Arsenic
Waste Code:	D005
Waste Description:	Barium
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	D007
Waste Description:	Chromium
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D009
Waste Description:	Mercury
Waste Code:	D011
Waste Description:	Silver
Waste Code:	D035
Waste Description:	Methyl Ethyl Ketone
Waste Code:	D039
Waste Description:	Tetrachloroethylene
Waste Code:	D040
Waste Description:	Trichlorethylene
Waste Code:	F001
Waste Description:	The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: U044
Waste Description: Chloroform (Or) Methane, Trichloro-

Waste Code: U052
Waste Description: Cresol (Cresylic Acid) (Or) Phenol, Methyl-

Waste Code: U165
Waste Description: Naphthalene

Waste Code: U188
Waste Description: Phenol

Waste Code: U210
Waste Description: Ethene, Tetrachloro- (Or) Tetrachloroethylene

Waste Code: U220
Waste Description: Benzene, Methyl- (Or) Toluene

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: S.S. KAREGA
Legal Status: Federal
Date Became Current: 20150701
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: 760-577-6556
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: UNITED STATES MARINE CORPS
Legal Status: Federal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: MARINE CORPS LOGISTICS BASE
Owner/Operator City,State,Zip: CITY NOT REPORTED, CA 99999
Owner/Operator Telephone: 714-577-6719
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Owner/Operator Indicator: Owner
Owner/Operator Name: UNITED STATES MARINE CORPS
Legal Status: Federal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: MARINE CORPS LOGISTICS BASE
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: 714-577-6719
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MIGUEL ARANDAGUILLEN
Legal Status: Federal
Date Became Current: 20150601
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MIGUEL ARANDAGUILLEN
Legal Status: Federal
Date Became Current: 20150601
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570, BLDG. 196
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: 760-577-6784
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: MIGUEL.ARANDAGUILLEN@USMC.MIL

Owner/Operator Indicator: Operator
Owner/Operator Name: COLONEL S.J. THOMPSON
Legal Status: Federal
Date Became Current: 20040601
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ENZOR, KENNETH, COL, USMC
Legal Status: Federal
Date Became Current: 20060626
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MIGUEL ARANDAGUILLEN
Legal Status: Federal
Date Became Current: 20150601
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570, BLDG. 196
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: 760-577-6784
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: MIGUEL.ARANDAGUILLEN@USMC.MIL

Owner/Operator Indicator: Owner
Owner/Operator Name: UNITED STATES MARINE CORPS
Legal Status: Federal
Date Became Current: 19420701
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: C. C. CLEMENS
Legal Status: Federal
Date Became Current: 20180719
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570, BLDG. 196
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: 760-577-6555
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: CRAIG.CLEMENS@USMC.MIL

Owner/Operator Indicator: Owner
Owner/Operator Name: UNITED STATES MARINE CORPS
Legal Status: Federal
Date Became Current: 19420701
Date Ended Current: Not reported
Owner/Operator Address: BOX 110570
Owner/Operator City,State,Zip: BARSTOW, CA 92311
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: UNITED STATES MARINE CORPS
Legal Status: Federal
Date Became Current: 19420701
Date Ended Current: Not reported
Owner/Operator Address: BOX 110170

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Owner/Operator City,State,Zip:	BARSTOW, CA 92311
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: COL. GREGORY B. PACE	
Legal Status:	Federal
Date Became Current:	20210701
Date Ended Current:	Not reported
Owner/Operator Address:	COMMAND OFF. P. O. BOX 110570
Owner/Operator City,State,Zip:	BARSTOW, CA 92311-0570
Owner/Operator Telephone:	760-577-6555
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	GREGORY.PACE@USMC.MIL
Owner/Operator Indicator:	Owner
Owner/Operator Name: COLONEL I. E. BERGMAN	
Legal Status:	Federal
Date Became Current:	20010701
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: COLONEL I.E. BERGMAN	
Legal Status:	Federal
Date Became Current:	20010701
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20160907
Handler Name: MCLB,BARSTOW [B570]	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20201110

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Handler Name: MCLB,BARSTOW [B570]
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220224
Handler Name: MCLB,BARSTOW [B570] NEBO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19960901
Handler Name: USMC BARSTOW LOGISTICS BASE NEBO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19800818
Handler Name: USMC BARSTOW LOGISTICS BASE NEBO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ca
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19920409
Handler Name: MARINE CORPS LOGISTICS BASE -
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940324
Handler Name: USMC MCLB BARSTOW NEBO ANNEX
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19960328
Handler Name: NEBO ANNEX, MCLB, BARSTOW, CA
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19990415
Handler Name: NEBO, MCLB, BARSTOW, CA
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20001012
Handler Name: MCLB, BARSTOW, NEBO
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Electronic Manifest Broker: Not reported

Receive Date: 20020131
Handler Name: MARINE CORPS LOGISTICS BASE, BARSTOW
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040204
Handler Name: MARINE CORPS LOGISTICS BASE, BARSTOW
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060125
Handler Name: MARINE CORPS LOGISTICS BASE, BARSTOW
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20080228
Handler Name: MCLB, BARSTOW B170
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 92811
NAICS Description: NATIONAL SECURITY

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Has the Facility Received Notices of Violations:

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19900502
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19910829
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19910829
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19940127
Actual Return to Compliance Date:	19940223
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	005
Date of Enforcement Action:	19940127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19901024
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19931213
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19930107
Enforcement Identifier:	002
Date of Enforcement Action:	19921207
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD IS-Ground-Water Monitoring
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD IS-Ground-Water Monitoring
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 006
Date of Enforcement Action: 19900406
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19900502
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 006
Date of Enforcement Action: 19900406
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19910829
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19981202
Actual Return to Compliance Date: 19990227
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19990226
Enforcement Identifier: 010
Date of Enforcement Action: 19990115
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: TEN
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19910826
Actual Return to Compliance Date: 19920513
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 008
Date of Enforcement Action: 19910905
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19981202
Actual Return to Compliance Date: 19990227
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19990226
Enforcement Identifier: 011
Date of Enforcement Action: 19990120
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19910829
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19880408
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19940223
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	003
Date of Enforcement Action:	19930225
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	2100
Final Monetary Amount:	2100
Paid Amount:	2100
Final Count:	1
Final Amount:	2100

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19900502
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD IS-Ground-Water Monitoring
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	Generators - General
Date Violation was Determined:	19981203
Actual Return to Compliance Date:	19990227
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	19990226
Enforcement Identifier:	010
Date of Enforcement Action:	19990115
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	TEN
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	20230516
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19880408
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19931213
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	003
Date of Enforcement Action:	19930225
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2100
Final Monetary Amount: 2100
Paid Amount: 2100
Final Count: 1
Final Amount: 2100

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD IS-Ground-Water Monitoring
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890525
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890525
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19910826
Actual Return to Compliance Date: 19920513
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 008
Date of Enforcement Action: 19910905
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890525
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890525
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD IS-Ground-Water Monitoring
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19901024
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19931213
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19930107
Enforcement Identifier:	002
Date of Enforcement Action:	19921207
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19910826
Actual Return to Compliance Date: 19920513
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 008
Date of Enforcement Action: 19910905
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19910826
Actual Return to Compliance Date:	19920513
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	008
Date of Enforcement Action:	19910905
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19931213
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	003
Date of Enforcement Action:	19930225
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	2100
Final Monetary Amount:	2100
Paid Amount:	2100
Final Count:	1
Final Amount:	2100

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 006
Date of Enforcement Action: 19900406
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD IS-Ground-Water Monitoring
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19920625
Actual Return to Compliance Date: 19920827
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 009
Date of Enforcement Action: 19920727
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: JSULL
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 19981203
Actual Return to Compliance Date: 19990227
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19990226
Enforcement Identifier: 011
Date of Enforcement Action: 19990120
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19890525
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19901024
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19880408
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	19880408
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19890525
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19900928
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD IS-Ground-Water Monitoring
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	19880408
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19890309
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19890309
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 006
Date of Enforcement Action: 19900406
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD IS-Ground-Water Monitoring
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19901024
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19900502
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	007
Date of Enforcement Action:	19900928
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19880408
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	19880408
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	STATE TO EPA ADMINISTRATIVE REFERRAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890307
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	19890630
Enforcement Identifier:	003
Date of Enforcement Action:	19890515
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	LDR - General
Date Violation was Determined:	19910826
Actual Return to Compliance Date:	19920513
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	008
Date of Enforcement Action:	19910905
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19871207
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19900406
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: R9EPA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19940127
Actual Return to Compliance Date:	19940223
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19940127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	1600
Final Monetary Amount:	1600
Paid Amount:	1600
Final Count:	1
Final Amount:	1600

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - General
Date Violation was Determined:	19890307
Actual Return to Compliance Date:	19950612
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	19890630
Enforcement Identifier:	001
Date of Enforcement Action:	19890515
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19940223
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19930107
Enforcement Identifier: 002
Date of Enforcement Action: 19921207
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19871207
Actual Return to Compliance Date: 19950612
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 19900502
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9EPA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19950612
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19871207
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: BCOFE

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19910829
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19910829
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19931213
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19940223
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19931213
Scheduled Compliance Date:	19930107
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900502
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19910829
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19981203
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19990227

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Scheduled Compliance Date:	19990226
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910507
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920513
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19981203
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19990227
Scheduled Compliance Date:	19990226
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19910829
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19940223
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900502
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19981203
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19990227
Scheduled Compliance Date:	19990226
Date of Request:	Not reported
Date Response Received:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20230516
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	CUPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19931213
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910507
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920513
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19931213
Scheduled Compliance Date:	19930107
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910507
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920513
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910507
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920513
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19931213
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920521
Evaluation Responsible Agency:	EPA Contractor/Grantee
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920827
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19981203
Evaluation Responsible Agency:	EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19990227
Scheduled Compliance Date: 19990226
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19890309
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9EPA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19950612
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19871207
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: BCOFE
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19901024
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19890309
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: R9EPA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19950612
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19871207
Evaluation Responsible Agency: EPA
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: BCOFE
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19901024

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890309
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901024
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900502
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890307
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	19890630
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20060612
Evaluation Responsible Agency:	Local
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910507
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920513
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200910
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19931213
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19940223
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890307
Evaluation Responsible Agency:	EPA

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	19890630
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921021
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19940223
Scheduled Compliance Date:	19930107
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871207
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	BCOFE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19950612
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

SIte:

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
Event Code:	Not reported
Action Taken Date:	05/01/2020
EPA ID:	CA8170024261
Action Name:	Explanation of Significant Differences
Action ID:	1
Operable Unit:	07
Contaminated Media:	Soil
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Media:

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	07
Action Name:	Explanation of Significant Differences
Action Taken Date:	05/01/2020
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2020

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID: CA8170024261

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	2
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Solid Waste
Action ID: 2
Operable Unit: 03
Action Name: Record of Decision
Action Taken Date: 06/03/1997
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1997
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Solid Waste
Action ID: 2
Operable Unit: 03
Action Name: Record of Decision
Action Taken Date: 06/03/1997
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1997
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Solid Waste
Action ID: 2
Operable Unit: 03
Action Name: Record of Decision
Action Taken Date: 06/03/1997
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1997
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Solid Waste

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action ID:	2
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	2
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1997
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Soil
Action ID: 3
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 01/23/1998
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1998
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Groundwater
Action ID: 3
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 01/23/1998
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1998
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: 34.878331
Longitude: -116.938900

EPA ID: CA8170024261
Contaminated Media: Soil
Action ID: 3
Operable Unit: 05
Action Name: Record of Decision
Action Taken Date: 01/23/1998
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1998
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	3
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	01/23/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	5

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Solid Waste
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	07
Action Name:	Record of Decision
Action Taken Date:	11/18/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	6
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	04/22/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	7
Operable Unit:	04
Action Name:	Record of Decision
Action Taken Date:	06/03/1997

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	7
Operable Unit:	04
Action Name:	Record of Decision
Action Taken Date:	06/03/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	8
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	01/23/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	8
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	01/23/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	8
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	01/23/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Soil
Action ID:	8
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	01/23/1998
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID:	CA8170024261
Contaminated Media:	Groundwater
Action ID:	9
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

EPA ID: CA8170024261

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contaminated Media:	Soil
Action ID:	9
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	09/28/2006
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

US INST CONTROLS:

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	1
Operable Unit:	01
Actual Date:	04/22/1998
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	2
Operable Unit:	03
Actual Date:	06/03/1997
Contaminated Media:	Solid Waste
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1997
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Latitude:	34.878331
Longitude:	-116.938900
Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	3
Operable Unit:	05
Actual Date:	01/23/1998
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	5
Operable Unit:	07
Actual Date:	11/18/2014
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900
Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	5
Operable Unit:	07
Actual Date:	11/18/2014
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	5
Operable Unit:	07
Actual Date:	11/18/2014
Contaminated Media:	Solid Waste
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2015
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	6
Operable Unit:	02
Actual Date:	04/22/1998
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action ID:	8
Operable Unit:	06
Actual Date:	01/23/1998
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
Address 2:	Not reported
City,State,Zip:	BARSTOW, CA 92311
EPA ID:	CA8170024261
Action Name:	Record of Decision
Action ID:	9
Operable Unit:	02
Actual Date:	09/28/2006
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2006
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	34.878331
Longitude:	-116.938900

ENVIROSTOR:

Name:	USMC BARSTOW LOGISTICS BASE NEBO
Address:	BARSTOW
City,State,Zip:	BARSTOW, CA 923110000
Facility ID:	80001276
Status:	Refer: Other Agency
Status Date:	12/30/2010
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	0
NPL:	YES
Regulatory Agencies:	SMBRP, RWQCB 6V - Lahontan, US EPA
Lead Agency:	US EPA
Program Manager:	Not reported
Supervisor:	Robert Senga
Division Branch:	Cleanup Cypress
Assembly:	34
Senate:	19
Special Program:	Not reported
Restricted Use:	NO

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.87609
Longitude: -116.9536
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CA8170024261
Alias Type: EPA Identification Number
Alias Name: 80001276
Alias Type: Envirostor ID Number
Alias Name: 36970001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Other Instrument
Completed Date: 09/28/1990
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ROD:
Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: GROUNDWATER OU 1
SEQ ID: 1
Action Completion: 1998-04-22 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: LANDFILL OU 3
SEQ ID: 2
Action Completion: 1997-06-03 00:00:00

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: SOIL OU 5
SEQ ID: 3
Action Completion: 1998-01-23 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: GW OU 2 (TRACKED AT OU1)
SEQ ID: 6
Action Completion: 1998-04-22 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: LANDFILL OU 4 (TRACKED AT OU3)
SEQ ID: 7
Action Completion: 1997-06-03 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: SOIL OU 6 (TRACKED AT OU5)
SEQ ID: 8
Action Completion: 1998-01-23 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: GOVT Decision Document (ROD)
Operable Unit Number: BASEWIDE FINAL OU7
SEQ ID: 5
Action Completion: 2014-11-18 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: BARSTOW MARINE CORPS LOGISTICS BASE
Address: MARINE CORPS LOGIS BASE- NEBO
City,State,Zip: BARSTOW, CA 92311
EPA ID: CA8170024261
RG: 9
Site ID: 902790
Action: GOVT Decision Document (ROD)
Operable Unit Number: GW OU 2 (TRACKED AT OU1)
SEQ ID: 9
Action Completion: 2006-09-28 00:00:00
NPL Status: Final
Non NPL Status: Not reported

RAATS:
Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 1 262.20(A)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: .00
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Viol No Cited: 2 262.11
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 3 265.13(A)(1)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 4 265.13(A)(2)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 5 265.13(B)(1-7)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 6 268.7(A)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 7 265.112(A)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 8 265.112(B)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 9 265.15(B)(1)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 474
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 10 265.15(B)(2)
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	11 265.15(D)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	12 265.74(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	474
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	13 265.75
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	NO DOCKET # ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	1 I.A.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	.00
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	2 II.B.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	3 III.A.
Total No Cited:	Not reported
Reg Type:	Permit

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 4 II.B.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 5 II.G.8
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 6 III.M.C.1
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 7 II.G.10
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 8 262.11
Total No Cited: Not reported
Reg Type: CFR
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	9 III.F.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	10 268.7(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No:	1
Facility ID:	CA8170024261
Type:	Not reported
Docket No:	Not reported
Region:	09
Issue Date:	09/28/1990
Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	11 III.N.1.B
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 12 III.N.1.C
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 13 III.H.7.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Viol No Cited: 14 III.I.3.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 15 III.I.4.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990
Final Date: 04/06/1990
Status: Federal Facility Compliance Agreement
Additional: Not reported
Action ID: 457
Action: Notice of Non-Compliance
Violation No: Not reported
Viol No Cited: 16 II.I.5.
Total No Cited: Not reported
Reg Type: Permit
Prop. Penalty: *
Final Penalty: .00
Total Prop. Penalty: .00
Comments: EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

Entry No: 1
Facility ID: CA8170024261
Type: Not reported
Docket No: Not reported
Region: 09
Issue Date: 09/28/1990

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Final Date:	04/06/1990
Status:	Federal Facility Compliance Agreement
Additional:	Not reported
Action ID:	457
Action:	Notice of Non-Compliance
Violation No:	Not reported
Viol No Cited:	17 III.M.1.A.
Total No Cited:	Not reported
Reg Type:	Permit
Prop. Penalty:	*
Final Penalty:	.00
Total Prop. Penalty:	.00
Comments:	EXCEPTING #8 AND #10 MOST OF THE ABOVE ALLEGE VARIOUS VIOLATIONS OF RESPONDENTS PERMIT NO DOCKET# ON CAPTIONED INSTRUMENT FFCA ON 9/28/90

PFAS NPL:

EPA Region:	09
Name:	BARSTOW MARINE CORPS LOGISTICS BASE
Address:	MARINE CORPS LOGIS BASE- NEBO
City,State,Zip:	BARSTOW, CA 92311
EPAID:	CA8170024261
Superfund Link:	https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0902790&msspp=med
Data Systems:	SEMS
Location Type:	Federal
NPL Site:	Y
NPL Status:	Final
Media Detected:	GW
Latitude:	34.878331
Longitude:	-116.9389
EJSCREEN Report:	https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22x%22:-116.9389,%22y%22:34.878331,%22spatialReference%22:%7B%22wkid%22:4326%7D%7D&unit=9035&areatype=&areaid=&basemap=streets&distance=1

HWP:

EPA ID:	CA8170024261
Name:	USMC BARSTOW LOGISTICS BASE NEBO
Address:	BARSTOW
Cleanup Status:	PROTECTIVE FILER
Latitude:	34.87609
Longitude:	-116.9536
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Senate District:	19
Assembly District:	34
Public Information Officer:	Not reported
Commercial Offsite Facility Types:	Not reported
Quarterly Update:	Not reported
Project Manager Lead:	Not reported
Project Manager:	Not reported
Permit Type:	Not reported
Permit Effective Date:	Not reported
Permit Expiration Date:	Not reported
Calenviroscreen Score:	81-85%

BARSTOW MARINE CORPS LOGISTICS BASE (Continued) **1000389921**

Total Planned Hours: Not reported
Total Planned Amount: Not reported
Total Actual Hours: Not reported

Activities:

EPA ID: CA8170024261
Facility Type: Historical - Non-Operating
Facility Name: USMC BARSTOW LOGISTICS BASE NEBO
Project Manager: Not reported
Project Manager Lead: Not reported
Supervisor: Not reported
Facility Status: PROTECTIVE FILER
Activity Type: Protective Filer Status
Permit Being Renewed: Not reported
Permit Being Modified: Not reported
Final Date: Not reported
Type: Not reported
Title Description: Protective Filer
Due Date: Not reported
Comments: Not reported
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (RECEIVED)
Actual Date: 01/01/1995

EPA ID: CA8170024261
Facility Type: Historical - Non-Operating
Facility Name: USMC BARSTOW LOGISTICS BASE NEBO
Project Manager: Not reported
Project Manager Lead: Not reported
Supervisor: Not reported
Facility Status: PROTECTIVE FILER
Activity Type: Protective Filer Status
Permit Being Renewed: Not reported
Permit Being Modified: Not reported
Final Date: Not reported
Type: Not reported
Title Description: Protective Filer
Due Date: Not reported
Comments: Not reported
Unit Names: TANKSTR1
Event Description: Protective Filer Status - PROTECTIVE FILER (APPROVED)
Actual Date: 01/01/1995

---

1 **YERMO CALIFORNIA CLASSIFICATION YARD** **CIWQS** **S121453026**
MARINE ROAD **N/A**
< 1/8 **YERMO, CA 92398**
1 ft.

Relative: Higher
Actual: 1948 ft.

CIWQS:
Name: YERMO CALIFORNIA CLASSIFICATION YARD
Address: MARINE ROAD
City,State,Zip: YERMO, CA 92398
Agency: Union Pacific Railroad
Agency Address: 1400 Douglas Street MS 0910, Omaha, NE 68179
Place/Project Type: Construction - Reconstruction
SIC/NAICS: Not reported
Region: 6V

YERMO CALIFORNIA CLASSIFICATION YARD (Continued) **S121453026**

Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	6B36C360656
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	03/24/2011
Termination Date:	08/31/2012
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	34.89709
Longitude:	-116.84479

2
NNW
< 1/8
0.016 mi.
82 ft.

SPRINT-YERMO REGENERATOR CAYERA **San Bern. Co. Permit** **S104770453**
36992 YERMO RD **N/A**
YERMO, CA 92398

Relative:
Lower

Actual:
1946 ft.

San Bern. Co. Permit:

Name:	SPRINT-YERMO REGENERATOR CAYERA
Address:	36992 YERMO RD
City,State,Zip:	YERMO, CA 92398
Region:	SAN BERNARDINO
Facility ID:	FA0006361
Owner:	Sprint
Permit Number:	PT0006844
Permit Category:	HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
Facility Status:	INACTIVE
Expiration Date:	09/30/2020

3
ESE
< 1/8
0.084 mi.
444 ft.

YERMO RAIL YARD **CPS-SLIC** **S106717827**
YERMO RAIL YARD **N/A**
YERMO, CA

Relative:
Lower

Actual:
1945 ft.

SLIC REG 6V:

Name:	YERMO RAIL YARD
Address:	YERMO RAIL YARD
City:	YERMO
Facility ID:	SL0607128737
Region:	6V
Personal Charge Account:	Not reported
Facility Addr2:	Not reported
Case Number:	SLT6V030
Initials:	CMM
Enter Date:	Not reported
Discovered By:	Not reported
RP Name:	UNION PACIFIC RAILROAD COMPANY

YERMO RAIL YARD (Continued) **S106717827**

RP Contact Name:	UNION PACIFIC RAILROAD COMPANY
RP Address:	1400 DOUGLAS STREET
RP City,St,Zip:	OMAHA, NE 68179
RP Billing Addr:	Not reported
RB Billing Addr2:	Not reported
RP Billing Addr3:	Not reported
RP Billing Addr4:	Not reported
Comments:	Not reported
Brownfield:	Not reported
Report Date:	02/06/04
Lead Agency:	L
Program Type:	SLIC
Funding:	LOPS
Abatement Method:	Not reported
Case Status:	Not reported
Case Type:	U
Case Type Undetermined:	Yes
Case Type Soil Impacted:	No
Case Type Surface Water:	No
Case Type Drinkin Water Well:	No
Case Type Drinking Water Aqfr:	No
Case Type Other Grnd Wtr:	No
Beneficial Use:	Not reported
VOC:	No
SVO:	No
MET:	No
CR:	No
PET:	No
PCB:	No
ACD:	No
PER:	No
DIO:	No
PAH:	No
PHC:	No
FER:	No
Arsenic:	No
PCE:	No
TCE:	No
TDS:	No
Nitrates:	No
OCP:	No
Lat/Long:	0 / 0

A4 **HOLDING AND RECONSIGNMENT POINT DEPOT** **FUDS** **1024903856**
East **N/A**
1/8-1/4 **YERMO, CA**
0.174 mi.
919 ft. **Site 1 of 2 in cluster A**

Relative: FUDS:
Lower

Actual: EPA Region:	09
1938 ft. Installation ID:	CA99799F826000
Congressional District Number:	23
Name:	HOLDING AND RECONSIGNMENT POINT DEPOT
FUDS Number:	J09CA7014
City:	YERMO
State:	CA
County:	SAN BERNARDINO

HOLDING AND RECONSIGNMENT POINT DEPOT (Continued) **1024903856**

Object ID:	905
USACE Division:	SPD
USACE District:	Los Angeles District (SPL)
Status:	Properties without projects
Current Owner:	PRIV: PRIVATE RAILROAD COMP.
EMS Map Link:	https://fudsportal.usace.army.mil/ems/inventory/map?id=57842
Eligibility:	Eligible
Has Projects:	No
NPL Status:	Not reported
Project Required:	No
Feature Description:	STORING LAND LEASE & OTHER SUPPLIES
Latitude:	34.9
Longitude:	-116.83527778

A5 **RECONSIGNMENT PT DEPOT** **ENVIROSTOR** **S107737134**
East **N/A**
1/8-1/4 **YERMO, CA**
0.179 mi.
943 ft. **Site 2 of 2 in cluster A**

Relative: **Lower**

Actual: **1938 ft.**

ENVIROSTOR:

Name:	RECONSIGNMENT PT DEPOT
Address:	Not reported
City,State,Zip:	YERMO, CA
Facility ID:	80000734
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Site Code:	Not reported
Site Type:	Military Evaluation
Site Type Detailed:	FUDS
Acres:	0
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Assembly:	34
Senate:	19
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	DERA
Latitude:	34.9
Longitude:	-116.8352
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CA99799F826000
Alias Type:	Federal Facility ID
Alias Name:	J09CA7014
Alias Type:	INPR
Alias Name:	80000734
Alias Type:	Envirostor ID Number

Completed Info:

RECONSIGNMENT PT DEPOT (Continued) **S107737134**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Inventory Project Report (INPR)
Completed Date:	01/05/1995
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

---

6 **ABANDONED TANK** **LUST** **S102043286**
ENE **37613 YERMO RD** **Cortese** **N/A**
1/4-1/2 **YERMO, CA 92398** **San Bern. Co. Permit**
0.406 mi. **CERS**
2146 ft.

Relative: **Lower**

Actual: **1935 ft.**

LUST:

Name:	SHAW PROPERTY
Address:	37613 YERMO ROAD
City,State,Zip:	YERMO, CA 92398
Lead Agency:	LAHONTAN RWQCB (REGION 6T)
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607122555
Global Id:	T0607122555
Latitude:	34.9023339609562
Longitude:	-116.838397979736
Status:	Completed - Case Closed
Status Date:	11/19/2013
Case Worker:	BDG
RB Case Number:	6B3601047T
Local Agency:	SAN BERNARDINO COUNTY
File Location:	Local Agency
Local Case Number:	Not reported
Potential Media Affect:	Soil, Soil Vapor
Potential Contaminants of Concern:	Gasoline
EPA Region:	9
Coordinate Source:	Manual Entry on Screens
Cuf Case:	YES
Quantity Released Gallons:	Not reported
Begin Date:	08/03/2006
Leak Reported Date:	08/04/2006
How Discovered:	Tank Closure
How Discovered Description:	Not reported
Discharge Source:	Tank
Discharge Cause:	Unknown
Stop Method:	Close and Remove Tank
Stop Description:	Not reported
No Further Action Date:	11/19/2013
CA Water Watershed Name:	Mojave - Lower Mojave (628.50)
Dwr Groundwater Subbasin Name:	Lower Mojave River Valley (6-040)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	61-65%

ABANDONED TANK (Continued) **S102043286**

CA Enviroscreen 4 Score: 55-60%
Military DOD Site: No
Facility Project Subtype: Not reported
RWQCB Region: LAHONTAN RWQCB (REGION 6V)
Site History: SOIL VAPOR EXTRACTION IS ONGOING.

LUST:
Global Id: T0607122555
Contact Type: Regional Board Caseworker - Primary Caseworker
Contact Name: BRIAN GREY
Organization Name: LAHONTAN RWQCB (REGION 6T)
Address: 2501 LAKE TAHOE BOULEVARD
City: SOUTH LAKE TAHOE
Email: bgrey@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0607122555
Contact Type: Local Agency Caseworker
Contact Name: CATHERINE RICHARDS
Organization Name: SAN BERNARDINO COUNTY
Address: 620 SOUTH E STREET
City: SAN BERNARDINO
Email: crichards@sbcfire.org
Phone Number: 9093868419

LUST:
Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 07/27/2009
Action: Letter - Notice

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 08/03/2006
Action: Site Visit / Inspection / Sampling

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 08/10/2010
Action: Letter - Notice

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 11/19/2013
Action: Closure/No Further Action Letter

Global Id: T0607122555
Action Type: RESPONSE
Date: 08/14/2006
Action: Tank Removal Report / UST Sampling Report

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 03/02/2011
Action: Referral to Regional Board

Global Id: T0607122555

ABANDONED TANK (Continued) **S102043286**

Action Type: ENFORCEMENT
Date: 08/01/2013
Action: Staff Letter

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 05/13/2013
Action: Notification - Preclosure

Global Id: T0607122555
Action Type: Other
Date: 08/04/2006
Action: Leak Reported

Global Id: T0607122555
Action Type: RESPONSE
Date: 10/15/2012
Action: Remedial Progress Report

Global Id: T0607122555
Action Type: RESPONSE
Date: 01/15/2013
Action: Remedial Progress Report

Global Id: T0607122555
Action Type: RESPONSE
Date: 04/17/2013
Action: Site Assessment Report

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 03/02/2011
Action: Referral to Regional Board

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 11/08/2012
Action: Verbal Enforcement

Global Id: T0607122555
Action Type: RESPONSE
Date: 07/15/2012
Action: Remedial Progress Report

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 05/09/2013
Action: Verbal Enforcement

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 07/18/2013
Action: Staff Letter

Global Id: T0607122555
Action Type: ENFORCEMENT
Date: 11/20/2012

ABANDONED TANK (Continued) **S102043286**

Action:	Verbal Enforcement
Global Id:	T0607122555
Action Type:	ENFORCEMENT
Date:	12/13/2012
Action:	Staff Letter
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	07/15/2011
Action:	Remedial Progress Report
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	04/15/2012
Action:	Remedial Progress Report
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	01/15/2012
Action:	Remedial Progress Report
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	12/10/2012
Action:	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	11/15/2012
Action:	Soil and Water Investigation Workplan - Regulator Responded
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	04/15/2013
Action:	Request for Closure - Regulator Responded
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	08/01/2013
Action:	Well Destruction Workplan - Regulator Responded
Global Id:	T0607122555
Action Type:	RESPONSE
Date:	08/05/2013
Action:	Well Destruction Workplan - Regulator Responded
Global Id:	T0607122555
Action Type:	REMEDIATION
Date:	04/10/2009
Action:	Soil Vapor Extraction (SVE)
Global Id:	T0607122555
Action Type:	ENFORCEMENT
Date:	05/20/2009
Action:	Staff Letter

ABANDONED TANK (Continued) **S102043286**

Global Id: T0607122555
Action Type: Other
Date: 08/03/2006
Action: Leak Discovery

Global Id: T0607122555
Action Type: RESPONSE
Date: 04/15/2011
Action: Remedial Progress Report

LUST:
Global Id: T0607122555
Status: Open - Case Begin Date
Status Date: 08/03/2006

Global Id: T0607122555
Status: Open - Site Assessment
Status Date: 08/29/2006

Global Id: T0607122555
Status: Open - Eligible for Closure
Status Date: 05/10/2013

Global Id: T0607122555
Status: Completed - Case Closed
Status Date: 11/19/2013

CORTESE:
Name: SHAW PROPERTY
Address: 37613 YERMO ROAD
City,State,Zip: YERMO, CA 92398
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0607122555
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Status Date: Not reported
Site Code: Not reported
Latitude: Not reported
Longitude: Not reported
Owner: Not reported
Enf Type: Not reported
Swat R: Not reported
Flag: active
Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported
File Name: Active Open

San Bern. Co. Permit:
Name: ABANDONED TANK

ABANDONED TANK (Continued) **S102043286**

Address: 37613 YERMO RD
City,State,Zip: YERMO, CA 92398
Region: SAN BERNARDINO
Facility ID: FA0000155
Owner: SHAW, STANLEY C.
Permit Number: PT0005125
Permit Category: HAZMAT HANDLER, UST ONLY - PER YEAR
Facility Status: INACTIVE
Expiration Date: 04/30/2007

Name: ABANDONED TANK
Address: 37613 YERMO RD
City,State,Zip: YERMO, CA 92398
Region: SAN BERNARDINO
Facility ID: FA0000155
Owner: SHAW, STANLEY C.
Permit Number: PT0010216
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: INACTIVE
Expiration Date: 04/30/2007

Name: ABANDONED TANK
Address: 37613 YERMO RD
City,State,Zip: YERMO, CA 92398
Region: SAN BERNARDINO
Facility ID: FA0000155
Owner: SHAW, STANLEY C.
Permit Number: PT0010217
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)
Facility Status: INACTIVE
Expiration Date: 04/30/2007

CERS:
Name: SHAW PROPERTY
Address: 37613 YERMO ROAD
City,State,Zip: YERMO, CA 92398
Site ID: 684270
CERS ID: T0607122555
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
Affiliation Type Desc: Regional Board Caseworker
Entity Name: BRIAN GREY - LAHONTAN RWQCB (REGION 6T)
Entity Title: Not reported
Affiliation Address: 2501 LAKE TAHOE BOULEVARD
Affiliation City: SOUTH LAKE TAHOE
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: ,

Affiliation Type Desc: Local Agency Caseworker
Entity Name: CATHERINE RICHARDS - SAN BERNARDINO COUNTY
Entity Title: Not reported
Affiliation Address: 620 SOUTH E STREET
Affiliation City: SAN BERNARDINO
Affiliation State: CA

ABANDONED TANK (Continued) **S102043286**

Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9093868419,

Count: 3 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
YERMO	S105027496	MIKHAN INC	CALICO-DAGGETT RD	92398	LUST, HIST CORTESE
YERMO	S107538799		HOUSE ON YERMO RD/37016 & 3707	92398	CDL
YERMO	S107532041		267 YERMO RD	92398	CDL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/07/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 64

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30
Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29
Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 05/30/2023
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/31/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/14/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 09/06/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 04/06/2023
Date Data Arrived at EDR: 04/13/2023
Date Made Active in Reports: 04/19/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/16/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/13/2023
Number of Days to Update: 83

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/24/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 71
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/21/2023
Date Data Arrived at EDR: 08/21/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 78

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 78

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 81

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/01/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 81

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 81

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/31/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/15/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 81

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/18/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 84

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/09/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/06/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023
Date Data Arrived at EDR: 09/01/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 19

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 04/14/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/28/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/03/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/22/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2023
Date Data Arrived at EDR: 07/19/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 83
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11
Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546
Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/02/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98
Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74
Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/09/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16
Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/22/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 77

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 61

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/04/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 60

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 10/20/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/06/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 07/16/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing

Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing

This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 110

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/14/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 09/06/2023
Number of Days to Update: 84

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/08/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 84

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/09/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing

A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/17/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 75

Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 08/08/2023
Date Data Arrived at EDR: 08/09/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 78

Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 08/08/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/27/2021
Date Data Arrived at EDR: 09/01/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 79

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Annually

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88
Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 06/08/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/18/2023
Date Data Arrived at EDR: 08/18/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 75
Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75
Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 05/24/2023
Date Data Arrived at EDR: 05/30/2023
Date Made Active in Reports: 08/21/2023
Number of Days to Update: 83
Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 10/13/2023
Number of Days to Update: 78
Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 07/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/03/2023
Date Made Active in Reports: 07/25/2023
Number of Days to Update: 83
Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 05/03/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/28/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 77

Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89

Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432
Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 07/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1469
Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412
Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 04/24/2023
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 816
Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 05/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473
Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455
Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 04/17/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468
Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 04/25/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475
Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77
Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 04/24/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/15/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 09/13/2023
Date Data Arrived at EDR: 09/14/2023
Date Made Active in Reports: 09/21/2023
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 77

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/14/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 78

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/14/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/14/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/14/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 06/29/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/19/2023
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/09/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 07/05/2022
Date Made Active in Reports: 09/19/2022
Number of Days to Update: 76

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/05/2022
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/08/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/06/2023
Date Data Arrived at EDR: 06/07/2023
Date Made Active in Reports: 08/25/2023
Number of Days to Update: 79
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing
Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20
Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 08/09/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region’s active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/06/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/09/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/02/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 08/23/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 81
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/06/2023
Number of Days to Update: 80
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/05/2023
Date Data Arrived at EDR: 06/05/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 06/27/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

BUTTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/27/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 77

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 08/02/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 77

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/12/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 76

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 13

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 08/03/2023
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 05/31/2023
Number of Days to Update: 34

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 06/21/2023
Date Data Arrived at EDR: 06/28/2023
Date Made Active in Reports: 09/14/2023
Number of Days to Update: 78

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 79

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/19/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/20/2023
Date Data Arrived at EDR: 06/22/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 48

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/20/2023
Date Data Arrived at EDR: 06/22/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 82

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/02/2023
Date Data Arrived at EDR: 04/18/2023
Date Made Active in Reports: 07/07/2023
Number of Days to Update: 80

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/25/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 77

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

MONO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/21/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/09/2023
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 04/01/2023
Date Data Arrived at EDR: 05/18/2023
Date Made Active in Reports: 06/14/2023
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/26/2022
Date Data Arrived at EDR: 08/29/2022
Date Made Active in Reports: 11/15/2022
Number of Days to Update: 78

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/11/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2023
Date Data Arrived at EDR: 07/11/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 77

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 09/25/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 09/25/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/04/2023
Date Made Active in Reports: 07/25/2023
Number of Days to Update: 82

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/18/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 77

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/26/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/25/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/16/2023
Number of Days to Update: 83

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/04/2023
Date Data Arrived at EDR: 04/05/2023
Date Made Active in Reports: 06/27/2023
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 79

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/04/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/25/2023
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79

Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 10/17/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/07/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/09/2023
Date Data Arrived at EDR: 08/10/2023
Date Made Active in Reports: 10/27/2023
Number of Days to Update: 78

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/08/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 08/29/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 05/10/2023
Date Data Arrived at EDR: 05/11/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 10/31/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/02/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 78

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 07/12/2023
Date Made Active in Reports: 09/26/2023
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/26/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 10/03/2023
Number of Days to Update: 75
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/16/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/02/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/26/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/13/2023
Number of Days to Update: 80
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/16/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2023
Date Data Arrived at EDR: 06/02/2023
Date Made Active in Reports: 06/14/2023
Number of Days to Update: 12
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/06/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 04/03/2023
Date Data Arrived at EDR: 04/18/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 56
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/26/2023
Date Made Active in Reports: 10/11/2023
Number of Days to Update: 77

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/07/2023
Next Scheduled EDR Contact: 02/19/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/05/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/09/2022
Next Scheduled EDR Contact: 02/26/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

YERMO PHASE I
37265 YERMO ROAD
YERMO, CA 92398

TARGET PROPERTY COORDINATES

Latitude (North):	34.8985 - 34° 53' 54.60''
Longitude (West):	116.845748 - 116° 50' 44.69''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	514093.4
UTM Y (Meters):	3861600.8
Elevation:	1948 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50005019 YERMO, CA
Version Date:	2021

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

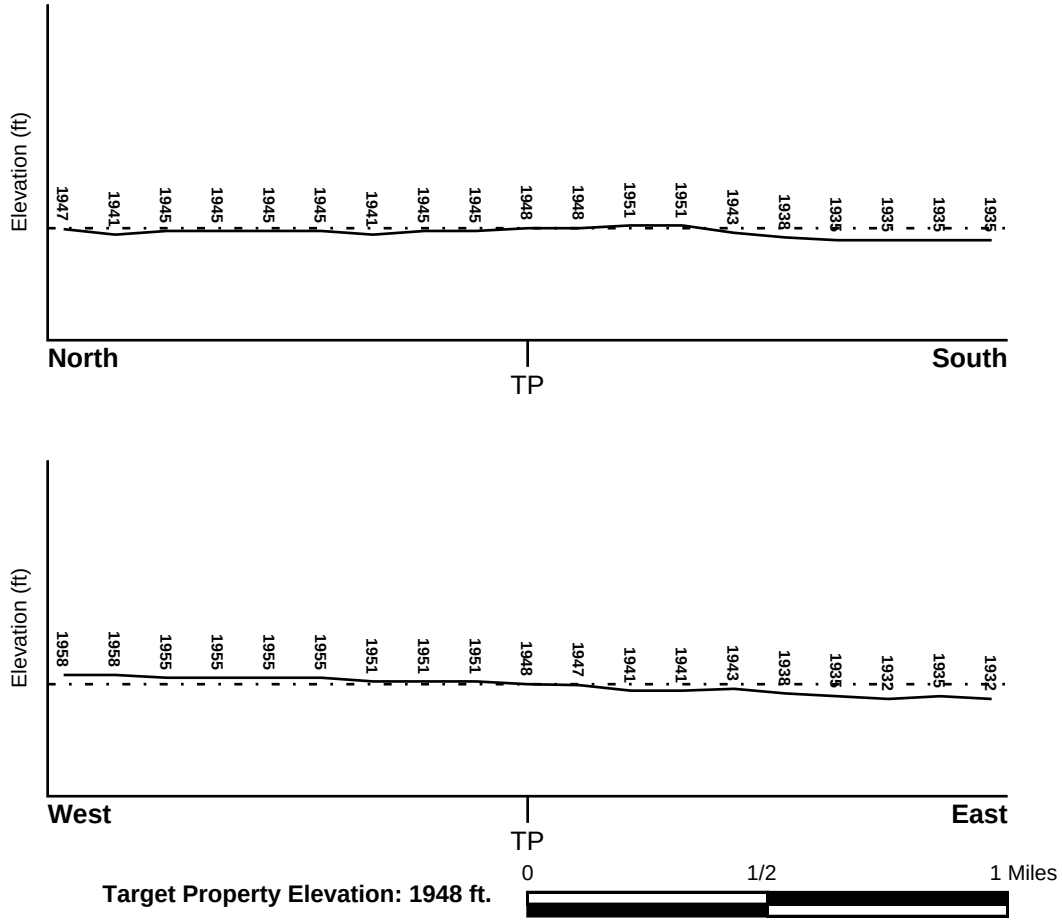
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06071C3975H	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

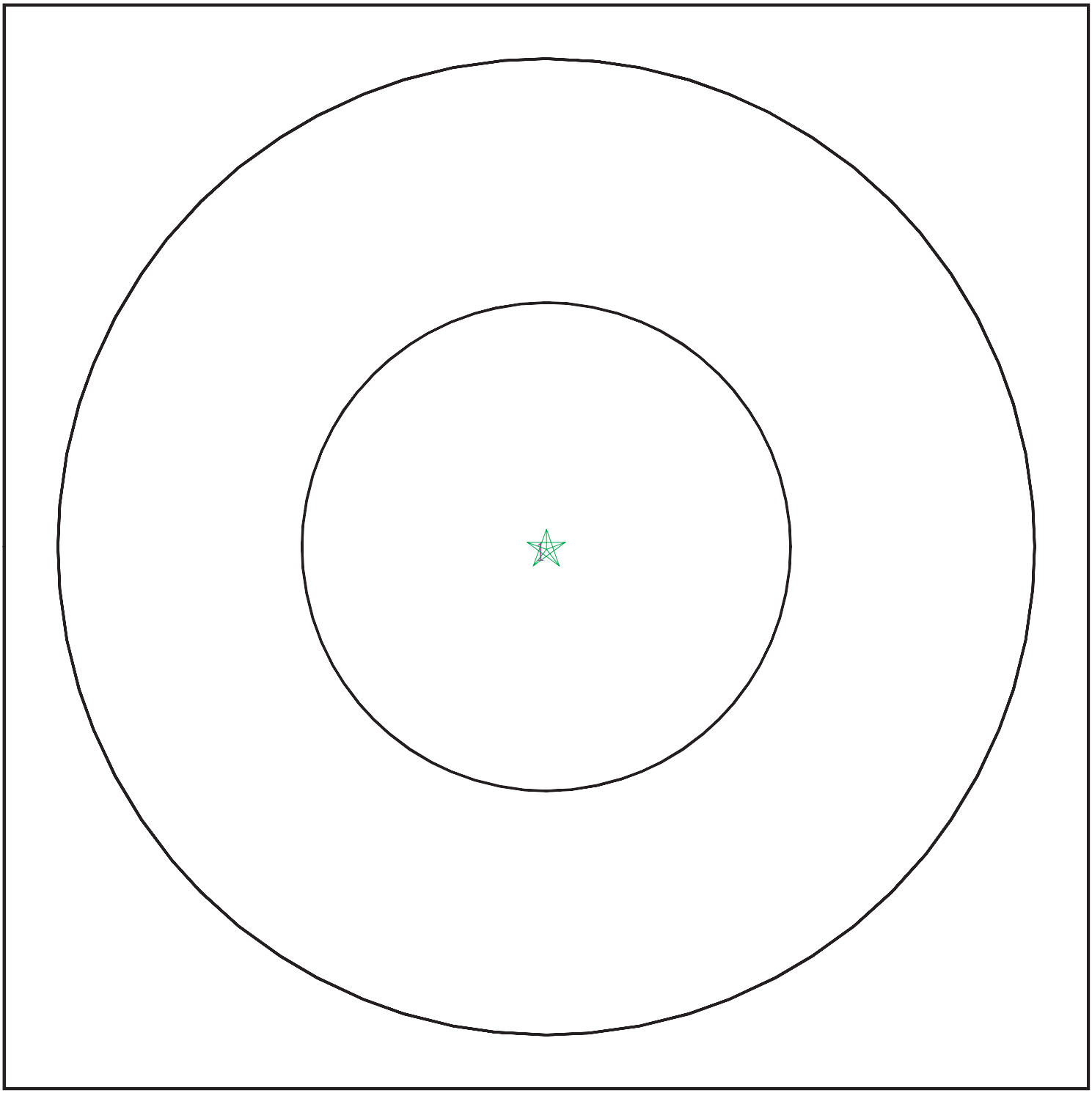
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7495670.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Yermo Phase I	CLIENT:	GeoSyntec Consultants
ADDRESS:	37265 Yermo Road Yermo CA 92398	CONTACT:	Victoria Severin
LAT/LONG:	34.8985 / 116.845748	INQUIRY #:	7495670.2s
		DATE:	November 13, 2023 12:03 pm

Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Cajon

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	5 inches	25 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	25 inches	59 inches	stratified gravelly sand to sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000156946	1/8 - 1/4 Mile WNW
A3	USGS40000157050	1/4 - 1/2 Mile North
A5	USGS40000157057	1/4 - 1/2 Mile North
A7	USGS40000157069	1/4 - 1/2 Mile North
A9	USGS40000157078	1/4 - 1/2 Mile North
10	USGS40000156728	1/4 - 1/2 Mile South
B12	USGS40000157013	1/4 - 1/2 Mile NW
14	USGS40000157070	1/4 - 1/2 Mile NNW
C15	USGS40000156733	1/4 - 1/2 Mile SSW
D19	USGS40000157049	1/4 - 1/2 Mile NE
21	USGS40000156696	1/4 - 1/2 Mile South
D22	USGS40000157056	1/4 - 1/2 Mile NE
D23	USGS40000157068	1/4 - 1/2 Mile NE
F25	USGS40000156697	1/4 - 1/2 Mile SSW
E29	USGS40000157152	1/4 - 1/2 Mile North
F30	USGS40000156693	1/4 - 1/2 Mile SSW
E31	USGS40000157151	1/4 - 1/2 Mile NNE
H36	USGS40000157058	1/2 - 1 Mile NW
H37	USGS40000157071	1/2 - 1 Mile NW
H39	USGS40000157079	1/2 - 1 Mile NW
I41	USGS40000157077	1/2 - 1 Mile NE
J45	USGS40000157208	1/2 - 1 Mile NNE
J47	USGS40000157224	1/2 - 1 Mile NNE
K49	USGS40000156707	1/2 - 1 Mile SE
50	USGS40000157225	1/2 - 1 Mile NW
M52	USGS40000156973	1/2 - 1 Mile ENE
L55	USGS40000157014	1/2 - 1 Mile WNW
N57	USGS40000156729	1/2 - 1 Mile WSW
62	USGS40000157223	1/2 - 1 Mile NE
Q68	USGS40000157081	1/2 - 1 Mile WNW
Q69	USGS40000157080	1/2 - 1 Mile WNW
R72	USGS40000156989	1/2 - 1 Mile ENE
S73	USGS40000157369	1/2 - 1 Mile NNW
T79	USGS40000157395	1/2 - 1 Mile North
U84	USGS40000157350	1/2 - 1 Mile NNW
U86	USGS40000157370	1/2 - 1 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
W92	USGS40000156795	1/2 - 1 Mile WSW
W93	USGS40000156796	1/2 - 1 Mile WSW
X95	USGS40000156637	1/2 - 1 Mile SW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

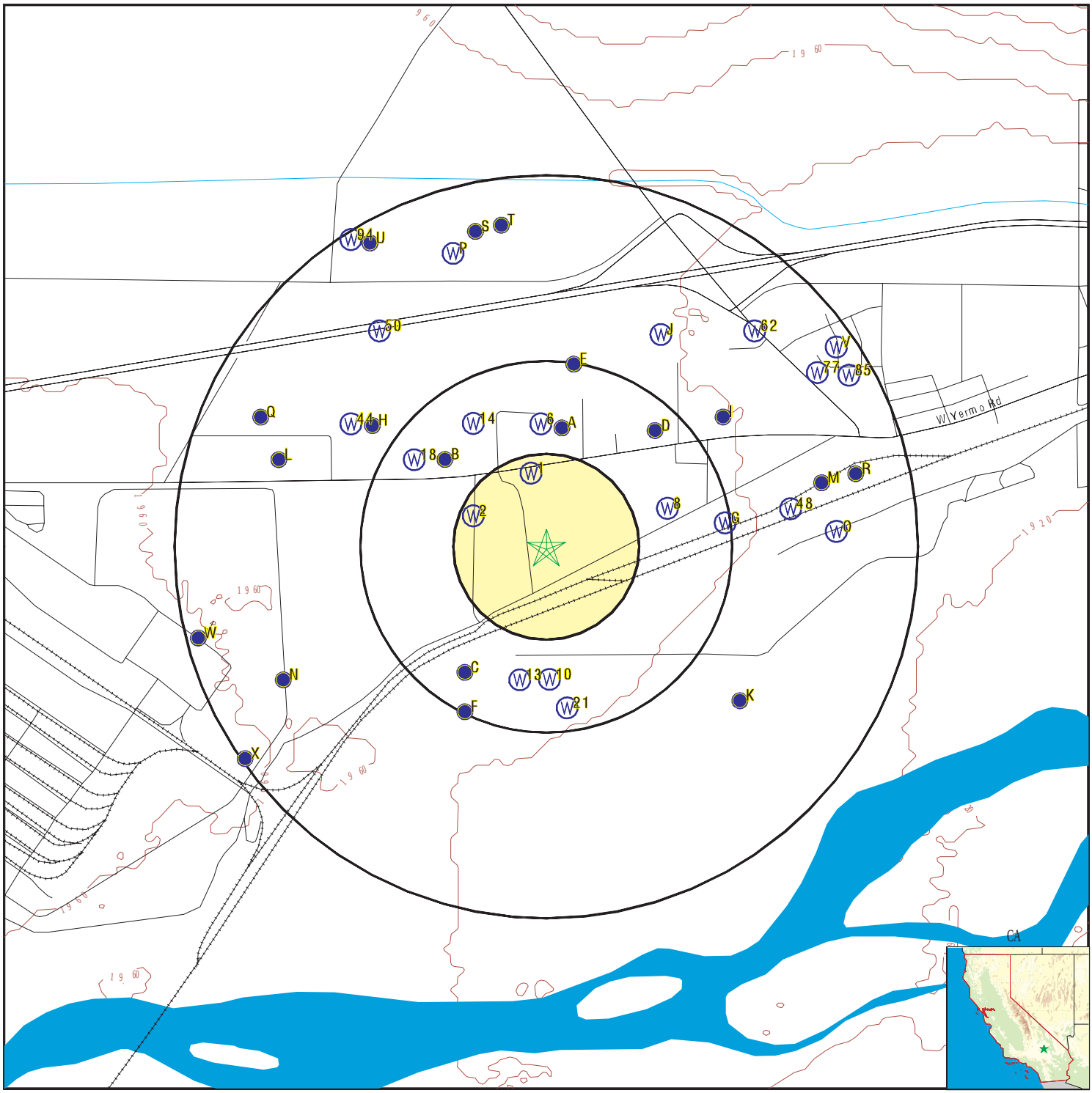
MAP ID	WELL ID	LOCATION FROM TP
1	8885	1/8 - 1/4 Mile NNW
A4	CADWR9000014625	1/4 - 1/2 Mile North
6	CADWR9000014636	1/4 - 1/2 Mile North
8	CADDW0000007845	1/4 - 1/2 Mile ENE
B11	CAUSGSN00007552	1/4 - 1/2 Mile NW
13	CADWR9000014432	1/4 - 1/2 Mile South
D16	CADWR9000014623	1/4 - 1/2 Mile NE
C17	CADWR9000014434	1/4 - 1/2 Mile SW
18	CADWR9000014600	1/4 - 1/2 Mile WNW
D20	CADWR9000014635	1/4 - 1/2 Mile NE
E24	CADDW0000019009	1/4 - 1/2 Mile North
G26	CADDW0000006976	1/4 - 1/2 Mile East
G27	CADDW0000022013	1/4 - 1/2 Mile East
E28	CADDW0000000664	1/4 - 1/2 Mile North
F32	CADWR9000014416	1/4 - 1/2 Mile SSW
G33	CADWR0000000813	1/4 - 1/2 Mile East
F34	CADWR9000014414	1/2 - 1 Mile SSW
E35	CADWR0000014085	1/2 - 1 Mile North
I38	CADWR9000014641	1/2 - 1 Mile NE
I40	CAUSGSN00009001	1/2 - 1 Mile NE
I42	CADWR0000027394	1/2 - 1 Mile NE
H43	CADWR9000014626	1/2 - 1 Mile WNW
44	CADWR9000014637	1/2 - 1 Mile WNW
K46	CADWR9000014424	1/2 - 1 Mile SE
48	8882	1/2 - 1 Mile East
L51	CADWR0000009239	1/2 - 1 Mile WNW
M53	CAUSGSN00010161	1/2 - 1 Mile ENE
L54	CAUSGSN00016992	1/2 - 1 Mile WNW
N56	CAUSGSN00013712	1/2 - 1 Mile WSW
O58	CADWR0000011462	1/2 - 1 Mile East
O59	CADWR0000036886	1/2 - 1 Mile East
L60	CADWR9000014601	1/2 - 1 Mile WNW
M61	CADWR9000014586	1/2 - 1 Mile ENE
P63	CADDW0000019369	1/2 - 1 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
P64	CADDW0000004273	1/2 - 1 Mile NNW
P65	CADDW0000022211	1/2 - 1 Mile NNW
Q66	CAUSGSN00000279	1/2 - 1 Mile WNW
Q67	CAUSGSN00005365	1/2 - 1 Mile WNW
P70	CADWR0000036503	1/2 - 1 Mile NNW
N71	CADWR9000014433	1/2 - 1 Mile WSW
R74	CAUSGSN00016151	1/2 - 1 Mile ENE
R75	CADWR0000019942	1/2 - 1 Mile ENE
P76	CADWR9000014783	1/2 - 1 Mile NNW
77	CADDW0000000842	1/2 - 1 Mile ENE
T78	CAUSGSN00005950	1/2 - 1 Mile North
T80	CADWR0000009389	1/2 - 1 Mile North
Q81	CADWR9000014643	1/2 - 1 Mile WNW
Q82	CADWR9000014642	1/2 - 1 Mile WNW
S83	CADWR9000014797	1/2 - 1 Mile NNW
85	CADDW0000019391	1/2 - 1 Mile ENE
V87	CADWR0000017690	1/2 - 1 Mile NE
V88	CADWR0000004533	1/2 - 1 Mile NE
W89	CAUSGSN00013355	1/2 - 1 Mile WSW
W90	CAUSGSN00007194	1/2 - 1 Mile WSW
U91	CADWR9000014774	1/2 - 1 Mile NNW
94	CADWR9000014784	1/2 - 1 Mile NNW
X96	CAUSGSN00002089	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 7495670.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Yermo Phase I	CLIENT:	GeoSyntec Consultants
ADDRESS:	37265 Yermo Road Yermo CA 92398	CONTACT:	Victoria Severin
		INQUIRY #:	7495670.2s
LAT/LONG:	34.8985 / 116.845748	DATE:	November 13, 2023 12:03 pm

Copyright © 2023 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NNW
1/8 - 1/4 Mile
Lower

CA WELLS **8885**

Seq:	8885	Prim sta c:	09N/01E-02G03 S
Frds no:	3600529001	County:	36
District:	66	User id:	36C
System no:	3600529	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	345405.0	Longitude:	1165044.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3600529	System nam:	Claras And Marias Mexican Food Aka Bzb
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0
Area serve:	Not Reported		

2
WNW
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000156946**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02L001S	Type:	Well
Description:	COMPUTER GENERATD LAT/LONG. +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A3
North
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157050**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02G004S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A4
North
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000014625**

State Well #:	09N01E02G002S	Station ID:	9682
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

A5
North
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157057**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02G002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1941	Well Depth:	120
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	2	Level reading date:	1960-06-01
Feet below surface:	81.5	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1960-03-11	Feet below surface:	87.65
Feet to sea level:	Not Reported	Note:	Not Reported

6
North
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000014636**

State Well #:	09N01E02G001S	Station ID:	31543
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

A7
North
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157069**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02G001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported

Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19590617	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-10-20
Feet below surface:	82.97	Feet to sea level:	Not Reported
Note:	Not Reported		

8
ENE **CA WELLS** **CADDW0000007845**
1/4 - 1/2 Mile
Lower

Well ID:	3600529-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 01	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3600529-001&store_num=		
GeoTracker Data:	Not Reported		

A9
North **FED USGS** **USGS40000157078**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02G003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

10
South **FED USGS** **USGS40000156728**
1/4 - 1/2 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E11B002S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	198
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	6	Level reading date:	1994-03-23
Feet below surface:	139.20	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1993-11-16	Feet below surface:	138.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-23	Feet below surface:	138.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-17	Feet below surface:	140.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-03-10	Feet below surface:	137.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-11-20	Feet below surface:	137.80
Feet to sea level:	Not Reported	Note:	Not Reported

B11
NW
1/4 - 1/2 Mile
Higher

CA WELLS **CAUSGSN00007552**

Well ID:	USGS-345407116505901	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345407116505901	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345407116505901&store_num=		
GeoTracker Data:	Not Reported		

B12
NW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000157013**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02F002S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	113
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	3	Level reading date:	1962-11-15
Feet below surface:	86.53	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1960-10-25	Feet below surface:	82.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-01	Feet below surface:	82.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

13
South
1/4 - 1/2 Mile
Higher | **CA WELLS** | **CADWR9000014432**

State Well #:	09N01E11B002S	Station ID:	40181
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

14
NNW
1/4 - 1/2 Mile
Higher | **FED USGS** | **USGS40000157070**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02F001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19540620	Well Depth:	108
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

C15
SSW
1/4 - 1/2 Mile
Higher | **FED USGS** | **USGS40000156733**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	010N001E35P003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	150
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1961-08-30
Feet below surface:	85.28	Feet to sea level:	Not Reported
Note:	A nearby site that taps the same aquifer was being pumped.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D16
NE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000014623**

State Well #:	09N01E02H002S	Station ID:	31544
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C17
SW
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR9000014434**

State Well #:	10N01E35P003S	Station ID:	34058
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

18
WNW
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR9000014600**

State Well #:	09N01E02F002S	Station ID:	9681
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

D19
NE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157049**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02H002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19600706	Well Depth:	135
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-07-06
Feet below surface:	72	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D20
NE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000014635**

State Well #:	09N01E02H001S	Station ID:	9683
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

21
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000156696**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E11B001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

D22
NE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157056**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02H003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19540622	Well Depth:	167
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

D23
NE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157068**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02H001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported

Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1930	Well Depth:	138
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-06
Feet below surface:	65	Feet to sea level:	Not Reported
Note:	Not Reported		

E24
North
1/4 - 1/2 Mile
Lower

CA WELLS **CADDW0000019009**

Well ID:	3610118-002	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	HEL BRO WELL 01 - DESTROYED		
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610118-002&store_num=		
GeoTracker Data:	Not Reported		

F25
SSW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000156697**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E11C001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-01-12
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was dry (no water level recorded).		

G26
East
1/4 - 1/2 Mile
Lower

CA WELLS **CADDW0000006976**

Well ID:	3600356-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 1 (PATIO WELL)	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3600356-001&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G27
East
1/4 - 1/2 Mile
Lower

CA WELLS **CADDW0000022013**

Well ID:	3600316-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 1	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3600316-001&store_num=		
GeoTracker Data:	Not Reported		

E28
North
1/4 - 1/2 Mile
Lower

CA WELLS **CADDW0000000664**

Well ID:	3610118-010	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	HEL BRO WELL 4	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610118-010&store_num=		
GeoTracker Data:	Not Reported		

E29
North
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000157152**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02B001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	200
Well Hole Depth Units:	ft		

F30
SSW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000156693**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E11C002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported

Construction Date:	Not Reported	Well Depth:	7.5
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-05-25
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was dry (no water level recorded).		

E31
NNE **FED USGS** **USGS40000157151**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02B003S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	200
Well Hole Depth Units:	ft		

F32
SSW **CA WELLS** **CADWR9000014416**
1/4 - 1/2 Mile
Higher

State Well #:	09N01E11C001S	Station ID:	9850
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

G33
East **CA WELLS** **CADWR0000000813**
1/4 - 1/2 Mile
Lower

Well ID:	09N01E01M001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01M001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01M001S&store_num=		
GeoTracker Data:	Not Reported		

F34
SSW **CA WELLS** **CADWR9000014414**
1/2 - 1 Mile
Higher

State Well #:	09N01E11C002S	Station ID:	9851
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley

Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

E35
North
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000014085**

Well ID:	09N01E02B003S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E02B003S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E02B003S&store_num=		
GeoTracker Data:	Not Reported		

H36
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157058**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02E002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1958	Well Depth:	190
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-10-19
Feet below surface:	80.38	Feet to sea level:	Not Reported
Note:	Not Reported		

H37
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157071**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02E001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	114
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-10-19
Feet below surface:	84.5	Feet to sea level:	Not Reported

Note: Not Reported

I38
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000014641**

State Well #:	09N01E01E001S	Station ID:	30064
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

H39
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157079**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02E003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19540618	Well Depth:	116
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

I40
NE
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00009001**

Well ID:	USGS-345413116501101	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345413116501101	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345413116501101&store_num=		
GeoTracker Data:	Not Reported		

I41
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000157077**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E01E001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported

Well Depth Units:	Not Reported	Well Hole Depth:	250
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	4	Level reading date:	1962-11-14
Feet below surface:	78.49	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1960-10-20	Feet below surface:	74.81
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1960-10-01	Feet below surface:	75.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1952-04-11	Feet below surface:	72
Feet to sea level:	Not Reported		
Note:	Other conditions existed that would affect the measured water level.		

I42
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000027394**

Well ID:	09N01E01E001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01E001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01E001S&store_num=		
GeoTracker Data:	Not Reported		

H43
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014626**

State Well #:	09N01E02E002S	Station ID:	31542
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

44
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014637**

State Well #:	09N01E02E001S	Station ID:	9680
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J45
NNE
1/2 - 1 Mile
Lower

FED USGS **USGS40000157208**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02A002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

K46
SE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000014424**

State Well #:	09N01E12D001S	Station ID:	39492
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J47
NNE
1/2 - 1 Mile
Lower

FED USGS **USGS40000157224**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02A001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

48
East
1/2 - 1 Mile
Lower

CA WELLS **8882**

Seq:	8882	Prim sta c:	09N/01E-01G01 S
Frds no:	3610118005	County:	36
District:	13	User id:	TAN
System no:	3610118	Water type:	G
Source nam:	MARINE WELL 02	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latitude:	345400.0	Longitude:	1165000.0
Precision:	8	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3610118	System nam:	Yermo Water Co
Hqname:	Not Reported	Address:	3020 E. HIGHWAY 86
City:	BARSTOW	State:	CA
Zip:	92311	Zip ext:	Not Reported
Pop serv:	1100	Connection:	348
Area serve:	YERMO		

Sample date:	22-MAY-12	Finding:	0.46
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		

Sample date:	22-MAY-12	Finding:	9.9
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		

Sample date:	22-MAY-12	Finding:	9.3
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	1.3
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	22.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	5.4
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	25.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	87.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	140.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	120.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	8.1
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	270.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

Sample date:	22-MAY-12	Finding:	1000.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	22-MAY-12	Finding:	4.6
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	22-MAY-12	Finding:	160.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	22-MAY-12	Finding:	140.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	22-MAY-12	Finding:	11.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	09-MAR-12	Finding:	0.53
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-MAR-12	Finding:	38.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	09-MAR-12	Finding:	37.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	1.5
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	54.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	6.7
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	45.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	140.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	200.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	160.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	8.
Chemical:	PH, LABORATORY	Report units:	Not Reported

Dlr:	0.		
Sample date:	09-MAR-12	Finding:	540.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	09-MAR-12	Finding:	8.3
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	09-MAR-12	Finding:	220.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	09-MAR-12	Finding:	8.1
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		
Sample date:	09-MAR-12	Finding:	310.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		

K49
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000156707**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E12D001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	190
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	43	Level reading date:	1957-12-05
Feet below surface:	60.54	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1957-05-03	Feet below surface:	59.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-27	Feet below surface:	58.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-04-17	Feet below surface:	57.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-12-15	Feet below surface:	57.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-04-18	Feet below surface:	58.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-11-26	Feet below surface:	55.50
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1954-05-19	Feet below surface:	54.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-11-17	Feet below surface:	53.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-05-19	Feet below surface:	52.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-11-20	Feet below surface:	51.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-06-03	Feet below surface:	50.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-11-28	Feet below surface:	50.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-05-09	Feet below surface:	49.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-11-09	Feet below surface:	48.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-05-03	Feet below surface:	47.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-05-16	Feet below surface:	44.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-11-22	Feet below surface:	43.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-05-18	Feet below surface:	42.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-11-17	Feet below surface:	41.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-05-21	Feet below surface:	40.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-01-08	Feet below surface:	39.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-11-28	Feet below surface:	37.14
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-05-10	Feet below surface:	34.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-04-26	Feet below surface:	33.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1943-12-29	Feet below surface:	38.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1943-05-18	Feet below surface:	35.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1942-11-26	Feet below surface:	43.21
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1942-05-14	Feet below surface:	41.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-11-27	Feet below surface:	39.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-06-11	Feet below surface:	37.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-12-06	Feet below surface:	46.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-05-09	Feet below surface:	45.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-10-30	Feet below surface:	43.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-05-22	Feet below surface:	41.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-10-19	Feet below surface:	39.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-05-25	Feet below surface:	37.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-06-22	Feet below surface:	42.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-01-16	Feet below surface:	53.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-01-29	Feet below surface:	50.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1934-04-30	Feet below surface:	48.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-05-04	Feet below surface:	45.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1930-05-23	Feet below surface:	46.45
Feet to sea level:	Not Reported	Note:	Not Reported

50
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157225**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E02D001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L51
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000009239**

Well ID:	09N01E03H003S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E03H003S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E03H003S&store_num=		
GeoTracker Data:	Not Reported		

M52
ENE
1/2 - 1 Mile
Lower

FED USGS **USGS40000156973**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E01L004S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	625
Well Hole Depth Units:	ft		

M53
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00010161**

Well ID:	USGS-345403116495601	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345403116495601	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345403116495601&store_num=		
GeoTracker Data:	Not Reported		

L54
WNW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00016992**

Well ID:	USGS-345407116512701	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345407116512701	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345407116512701&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L55
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157014**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E03H003S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19320101	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	109
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	3	Level reading date:	1962-10-16
Feet below surface:	91.24	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1962-10-01	Feet below surface:	91.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1952-04-11	Feet below surface:	73.7
Feet to sea level:	Not Reported		
Note:	Other conditions existed that would affect the measured water level.		

N56
WSW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00013712**

Well ID:	USGS-345336116512501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345336116512501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345336116512501&store_num=		
GeoTracker Data:	Not Reported		

N57
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000156729**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E10A001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19940125	Well Depth:	198
Well Depth Units:	ft	Well Hole Depth:	205
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1994-04-05
Feet below surface:	137.62	Feet to sea level:	Not Reported
Note:	Not Reported		

O58
East
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000011462**

Well ID:	09N01E01L004S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01L004S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01L004S&store_num=		
GeoTracker Data:	Not Reported		

O59
East
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000036886**

Well ID:	09N01E01L002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01L002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01L002S&store_num=		
GeoTracker Data:	Not Reported		

L60
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014601**

State Well #:	09N01E03H003S	Station ID:	9687
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

M61
ENE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000014586**

State Well #:	09N01E01L001S	Station ID:	9131
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

62
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000157223**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E01D001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	242
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

P63
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADDW0000019369**

Well ID:	3600386-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 1	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3600386-001&store_num=		
GeoTracker Data:	Not Reported		

P64
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADDW0000004273**

Well ID:	3901080-002	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	STANDBY WELL	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3901080-002&store_num=		
GeoTracker Data:	Not Reported		

P65
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADDW0000022211**

Well ID:	3600386-002	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 02	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3600386-002&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q66
WNW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00000279**

Well ID:	USGS-345413116512901	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345413116512901	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345413116512901&store_num=		
GeoTracker Data:	Not Reported		

Q67
WNW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00005365**

Well ID:	USGS-345413116512902	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345413116512902	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345413116512902&store_num=		
GeoTracker Data:	Not Reported		

Q68
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157081**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E03H005S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19881210	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	209
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	16	Level reading date:	1998-04-13
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1997-03-25	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1996-05-15	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1995-05-09	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		

Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1994-11-14	Feet below surface:	136.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-05-25	Feet below surface:	132.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-23	Feet below surface:	132.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	132.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-18	Feet below surface:	129.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-05-27	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1992-03-10	Feet below surface:	132.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-11-20	Feet below surface:	131.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-06-11	Feet below surface:	128.80
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1990-11-14	Feet below surface:	105.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-05-24	Feet below surface:	116.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1989-06-01	Feet below surface:	121.44
Feet to sea level:	Not Reported	Note:	Not Reported

Q69
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157080**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E03H001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	194506	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	137
Well Hole Depth Units:	ft		
Ground water levels,Number of Measurements:	127	Level reading date:	1989-06-01
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was dry (no water level recorded).		
Level reading date:	1988-12-01	Feet below surface:	124.83

Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-03-10	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1987-11-05	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1987-05-13	Feet below surface:	117.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-03-30	Feet below surface:	115.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-12-11	Feet below surface:	113.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-10-08	Feet below surface:	112.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-07-15	Feet below surface:	115.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-04-23	Feet below surface:	113.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1986-01-22	Feet below surface:	114.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-10-18	Feet below surface:	109.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-05-15	Feet below surface:	105.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1985-01-17	Feet below surface:	103.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-10-18	Feet below surface:	102.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-05-21	Feet below surface:	99.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-28	Feet below surface:	98.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-19	Feet below surface:	98.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-21	Feet below surface:	100.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-23	Feet below surface:	105.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-13	Feet below surface:	105.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-10-21	Feet below surface:	105.34

Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1982-06-03	Feet below surface:	103.56
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1982-03-24	Feet below surface:	102.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-02	Feet below surface:	102.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-07	Feet below surface:	101.56
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1981-06-30	Feet below surface:	100.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-26	Feet below surface:	99.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-05	Feet below surface:	98.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-26	Feet below surface:	105.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-10	Feet below surface:	95.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-03-13	Feet below surface:	94.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-27	Feet below surface:	87.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-27	Feet below surface:	93.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-11	Feet below surface:	88.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-16	Feet below surface:	86.93
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1960-10-20	Feet below surface:	82.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-25	Feet below surface:	87.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-13	Feet below surface:	87.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-05-06	Feet below surface:	82.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-12-04	Feet below surface:	79.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-27	Feet below surface:	79.51
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1957-12-05	Feet below surface:	79.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-05-03	Feet below surface:	77.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-27	Feet below surface:	77.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-04-17	Feet below surface:	76.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-12-15	Feet below surface:	75.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-04-18	Feet below surface:	77.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-11-26	Feet below surface:	73.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-05-19	Feet below surface:	72.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-11-17	Feet below surface:	72.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-03-19	Feet below surface:	70.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-02-19	Feet below surface:	69.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-01-23	Feet below surface:	70.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-10-17	Feet below surface:	69.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-09-19	Feet below surface:	73.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-07-17	Feet below surface:	75.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-06-27	Feet below surface:	69.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-04-11	Feet below surface:	69.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-03-14	Feet below surface:	69.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-02-15	Feet below surface:	68.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-01-23	Feet below surface:	68.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-12	Feet below surface:	68.75
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1951-09-14	Feet below surface:	68.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-08-16	Feet below surface:	67.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-07-19	Feet below surface:	67.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-04-19	Feet below surface:	67.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-03-21	Feet below surface:	67.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-02-15	Feet below surface:	66.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-01-17	Feet below surface:	66.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-12-14	Feet below surface:	66.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-10-18	Feet below surface:	66.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-09-15	Feet below surface:	66.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-08-16	Feet below surface:	65.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-07-13	Feet below surface:	65.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-06-16	Feet below surface:	65.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-04-20	Feet below surface:	64.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-03-16	Feet below surface:	64.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-02-16	Feet below surface:	64.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-01-25	Feet below surface:	64.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-12-15	Feet below surface:	64.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-07-15	Feet below surface:	63.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-04-15	Feet below surface:	62.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-03-17	Feet below surface:	62.40
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1949-02-18	Feet below surface:	62.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-01-18	Feet below surface:	61.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-12-10	Feet below surface:	61.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-09-15	Feet below surface:	61.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-08-11	Feet below surface:	61.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-07-14	Feet below surface:	60.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-02-18	Feet below surface:	59.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-09-09	Feet below surface:	58.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-08-08	Feet below surface:	58.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-07-23	Feet below surface:	58.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-07-09	Feet below surface:	57.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-06-26	Feet below surface:	57.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-06-10	Feet below surface:	57.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-05-27	Feet below surface:	57.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-05-16	Feet below surface:	57.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-04-23	Feet below surface:	57.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-04-10	Feet below surface:	57.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-03-27	Feet below surface:	56.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-03-04	Feet below surface:	56.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-02-20	Feet below surface:	56.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-02-06	Feet below surface:	56.60
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1947-01-22	Feet below surface:	56.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-01-02	Feet below surface:	56.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-12-19	Feet below surface:	56.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-12-04	Feet below surface:	56.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-11-27	Feet below surface:	56.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-11-20	Feet below surface:	56.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-11-12	Feet below surface:	56.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-11-04	Feet below surface:	55.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-10-30	Feet below surface:	55.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-10-23	Feet below surface:	55.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-10-14	Feet below surface:	55.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-10-07	Feet below surface:	55.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-10-01	Feet below surface:	55.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-09-25	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-09-17	Feet below surface:	55.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-09-11	Feet below surface:	55.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-09-04	Feet below surface:	55.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-08-28	Feet below surface:	55.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-08-12	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-08-01	Feet below surface:	55.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-07-30	Feet below surface:	55.10
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1946-07-22	Feet below surface:	55.00
Feet to sea level:	Not Reported	Note:	Not Reported

P70
NNW **CA WELLS** **CADWR0000036503**
1/2 - 1 Mile
Higher

Well ID:	10N01E35P002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	10N01E35P002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=10N01E35P002S&store_num=		
GeoTracker Data:	Not Reported		

N71
WSW **CA WELLS** **CADWR9000014433**
1/2 - 1 Mile
Higher

State Well #:	09N01E10A001S	Station ID:	9706
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

R72
ENE **FED USGS** **USGS40000156989**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E01L001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	325
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	4	Level reading date:	1960-10-19
Feet below surface:	71.40	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1960-10-01	Feet below surface:	71.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1952-04-22	Feet below surface:	58.2
Feet to sea level:	Not Reported		
Note:	Other conditions existed that would affect the measured water level.		

Level reading date:	1930	Feet below surface:	55.6
Feet to sea level:	Not Reported		
Note:	Other conditions existed that would affect the measured water level.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

S73
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157369**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	010N001E35P001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	196011	Well Depth:	148
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1960-11
Feet below surface:	70	Feet to sea level:	Not Reported
Note:	A nearby site that taps the same aquifer was being pumped.		

R74
ENE
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00016151**

Well ID:	USGS-345405116494901	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345405116494901	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345405116494901&store_num=		
GeoTracker Data:	Not Reported		

R75
ENE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000019942**

Well ID:	09N01E01L001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01L001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01L001S&store_num=		
GeoTracker Data:	Not Reported		

P76
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014783**

State Well #:	10N01E35P001S	Station ID:	13015
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

77
ENE
1/2 - 1 Mile
Lower

CA WELLS **CADDW0000000842**

Well ID:	3610118-005	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	MARINE WELL 02	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610118-005&store_num=		
GeoTracker Data:	Not Reported		

T78
North
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00005950**

Well ID:	USGS-345440116504901	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345440116504901	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345440116504901&store_num=		
GeoTracker Data:	Not Reported		

T79
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000157395**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	010N001E35P004S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	407
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1919
Feet below surface:	60	Feet to sea level:	Not Reported
Note:	Other conditions existed that would affect the measured water level.		

T80
North
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000009389**

Well ID:	10N01E35P004S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	10N01E35P004S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=10N01E35P004S&store_num=		

GeoTracker Data: Not Reported

Q81
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014643**

State Well #:	09N01E03H005S	Station ID:	31547
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Q82
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014642**

State Well #:	09N01E03H001S	Station ID:	31546
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

S83
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014797**

State Well #:	10N01E35P004S	Station ID:	10335
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

U84
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000157350**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	010N001E35N002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19580501	Well Depth:	140
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	7	Level reading date:	1970-04-20
Feet below surface:	99.48	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1970-03-20	Feet below surface:	92.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-10	Feet below surface:	92.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-03-12	Feet below surface:	91.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-27	Feet below surface:	91.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-22	Feet below surface:	89.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-10-20	Feet below surface:	82.75
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was being pumped.		

85
ENE **CA WELLS** **CADDW0000019391**
1/2 - 1 Mile
Lower

Well ID:	3610118-004	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	MARINE WELL 01	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610118-004&store_num=		
GeoTracker Data:	Not Reported		

U86
NNW **FED USGS** **USGS40000157370**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	010N001E35N001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG. +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1958	Well Depth:	147
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1958
Feet below surface:	90	Feet to sea level:	Not Reported
Note:	A nearby site that taps the same aquifer was being pumped.		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

V87
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000017690**

Well ID:	09N01E01C001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01C001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01C001S&store_num=		
GeoTracker Data:	Not Reported		

V88
NE
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000004533**

Well ID:	09N01E01C002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	09N01E01C002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=09N01E01C002S&store_num=		
GeoTracker Data:	Not Reported		

W89
WSW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00013355**

Well ID:	USGS-345342116514101	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345342116514101	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345342116514101&store_num=		
GeoTracker Data:	Not Reported		

W90
WSW
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00007194**

Well ID:	USGS-345342116514102	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345342116514102	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345342116514102&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

U91
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014774**

State Well #:	10N01E35N002S	Station ID:	34057
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

W92
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000156795**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E03Q001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19710101	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	125
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	2	Level reading date:	1971-06-19
Feet below surface:	104	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1971-06-01	Feet below surface:	104.00
Feet to sea level:	Not Reported	Note:	Not Reported

W93
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000156796**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E03Q002S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19710101	Well Depth:	155
Well Depth Units:	ft	Well Hole Depth:	155
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	2	Level reading date:	1971-06-17
Feet below surface:	104	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1971-06-01	Feet below surface:	104.00
Feet to sea level:	Not Reported	Note:	Not Reported

94
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000014784**

State Well #:	10N01E35N001S	Station ID:	13014
Well Name:	Not Reported	Basin Name:	Lower Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

X95
SW
1/2 - 1 Mile
Higher

FED USGS **USGS40000156637**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	009N001E10H001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19680101	Well Depth:	441
Well Depth Units:	ft	Well Hole Depth:	453
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	8	Level reading date:	1971-04-20
Feet below surface:	107.12	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1970-10-19	Feet below surface:	106.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-03-20	Feet below surface:	104.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-10-29	Feet below surface:	105.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-07-16	Feet below surface:	104.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-09	Feet below surface:	106.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-10-22	Feet below surface:	114.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-06-01	Feet below surface:	292.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
CA WELLS	**CAUSGSN00002089**

X96
SW
1/2 - 1 Mile
Higher

Well ID:	USGS-345325116513301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-345325116513301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-345325116513301&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for SAN BERNARDINO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN BERNARDINO COUNTY, CA

Number of sites tested: 18

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.678 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Yermo Phase I

37265 Yermo Road

Yermo, CA 92398

Inquiry Number: 7495670.8

November 13, 2023

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/13/23

Site Name:

Yermo Phase I
37265 Yermo Road
Yermo, CA 92398
EDR Inquiry # 7495670.8

Client Name:

GeoSyntec Consultants
16644 West Bernardo Drive SUITE 301
SAN DIEGO, CA 92127
Contact: Victoria Severin

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1995	1"=500'	Acquisition Date: October 01, 1995	USGS/DOQQ
1983	1"=500'	Flight Date: June 26, 1983	USDA
1975	1"=500'	Flight Date: June 09, 1975	USGS
1970	1"=500'	Flight Date: May 14, 1970	USGS
1964	1"=500'	Flight Date: February 21, 1964	Hurd
1959	1"=500'	Flight Date: August 25, 1959	USDA
1952	1"=500'	Flight Date: November 28, 1952	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT.

Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.


INQUIRY #: 7495670.8
YEAR: 2020
= 500'
N
EDR



INQUIRY #: 7495670.8

YEAR: 2016

= 500'

N

EDR



INQUIRY #: 7495670.8

YEAR: 2012

= 500'

N

EDR



INQUIRY #: 7495670.8

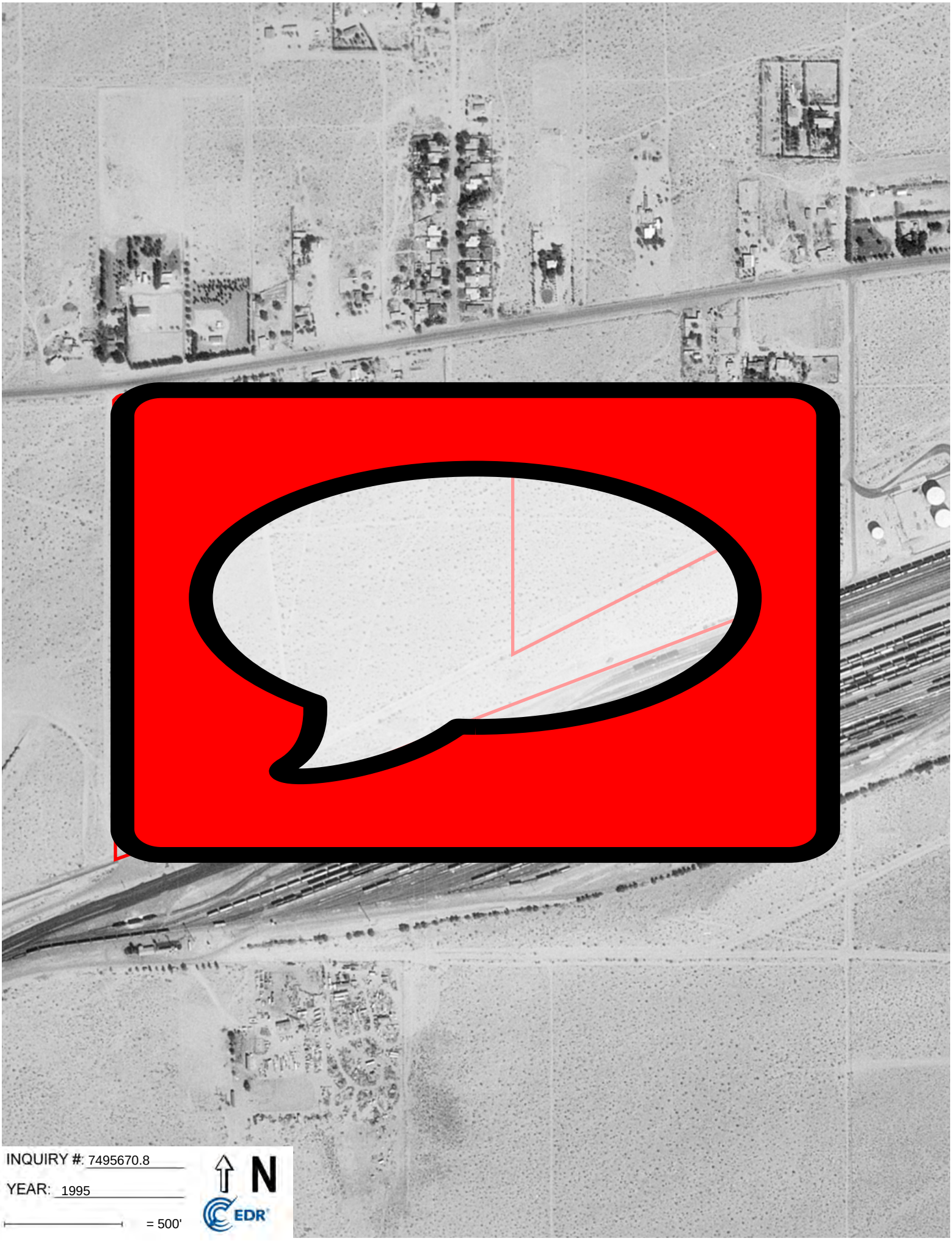
YEAR: 2009

= 500'

N

EDR


INQUIRY #: 7495670.8
YEAR: 2005
= 500'
N
EDR



INQUIRY #: 7495670.8

YEAR: 1995

= 500'

N

EDR



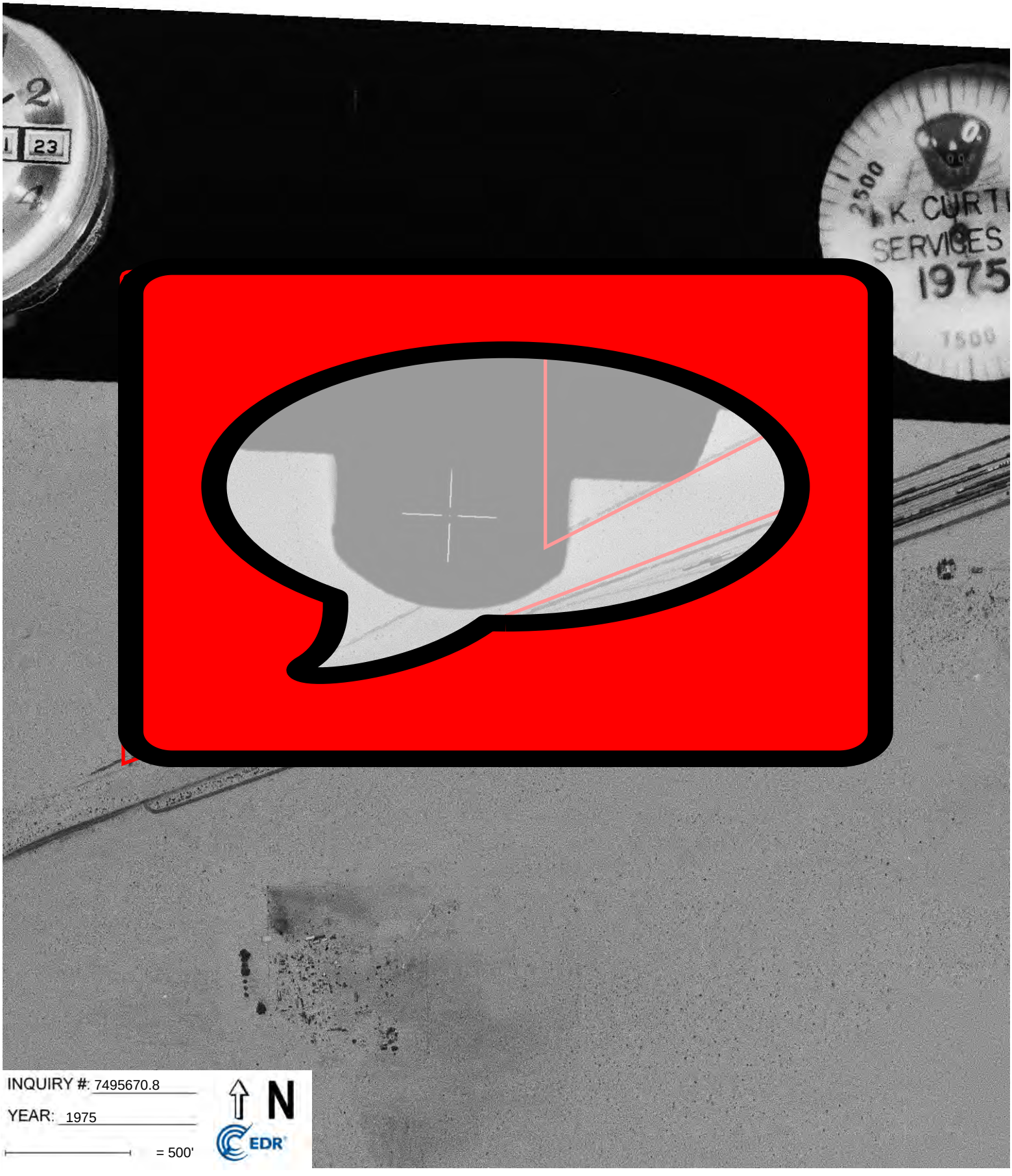
INQUIRY #: 7495670.8

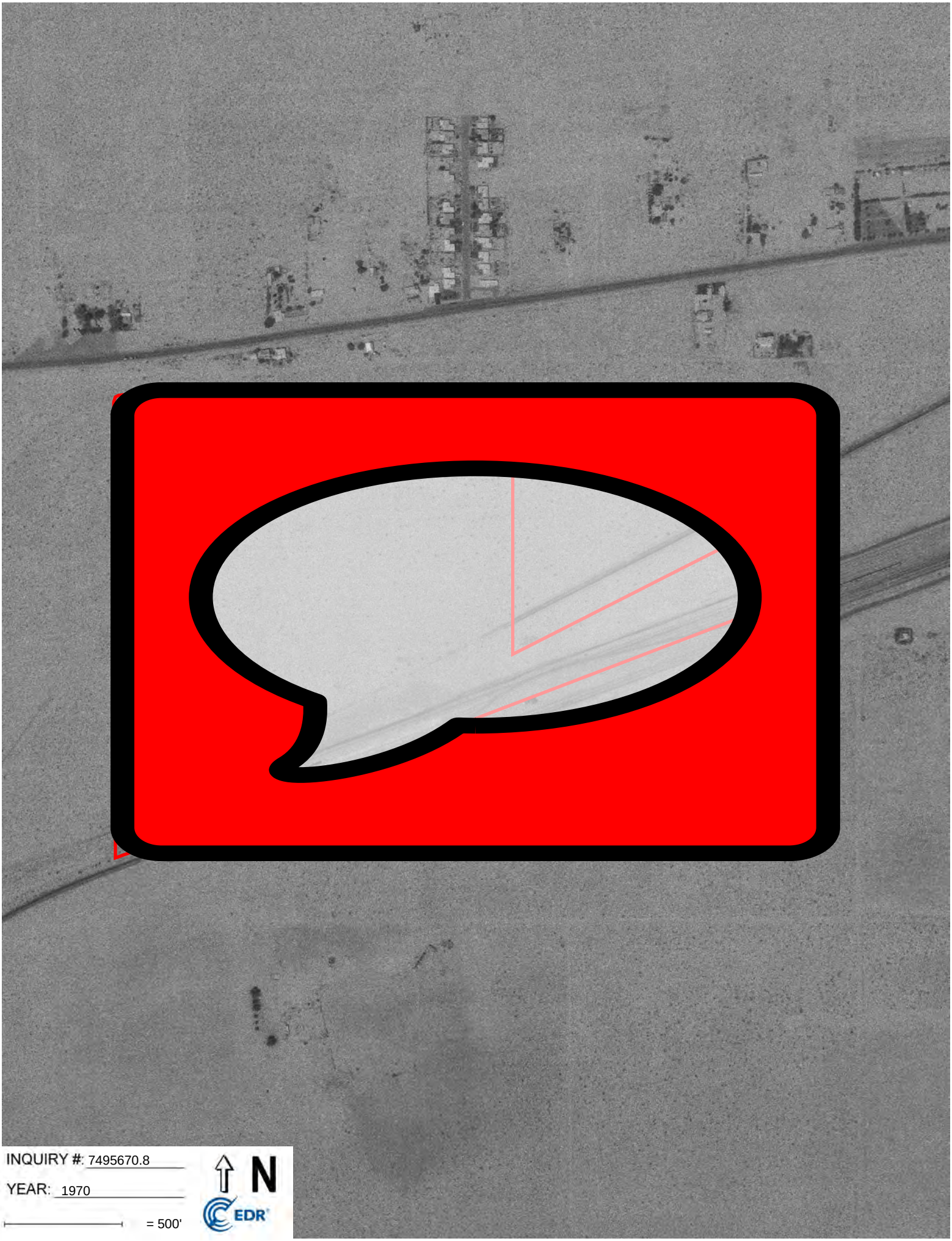
YEAR: 1983

= 500'

N

EDR


K. CURT
SERVICES
1975
INQUIRY #: 7495670.8
YEAR: 1975
= 500'
N
EDR



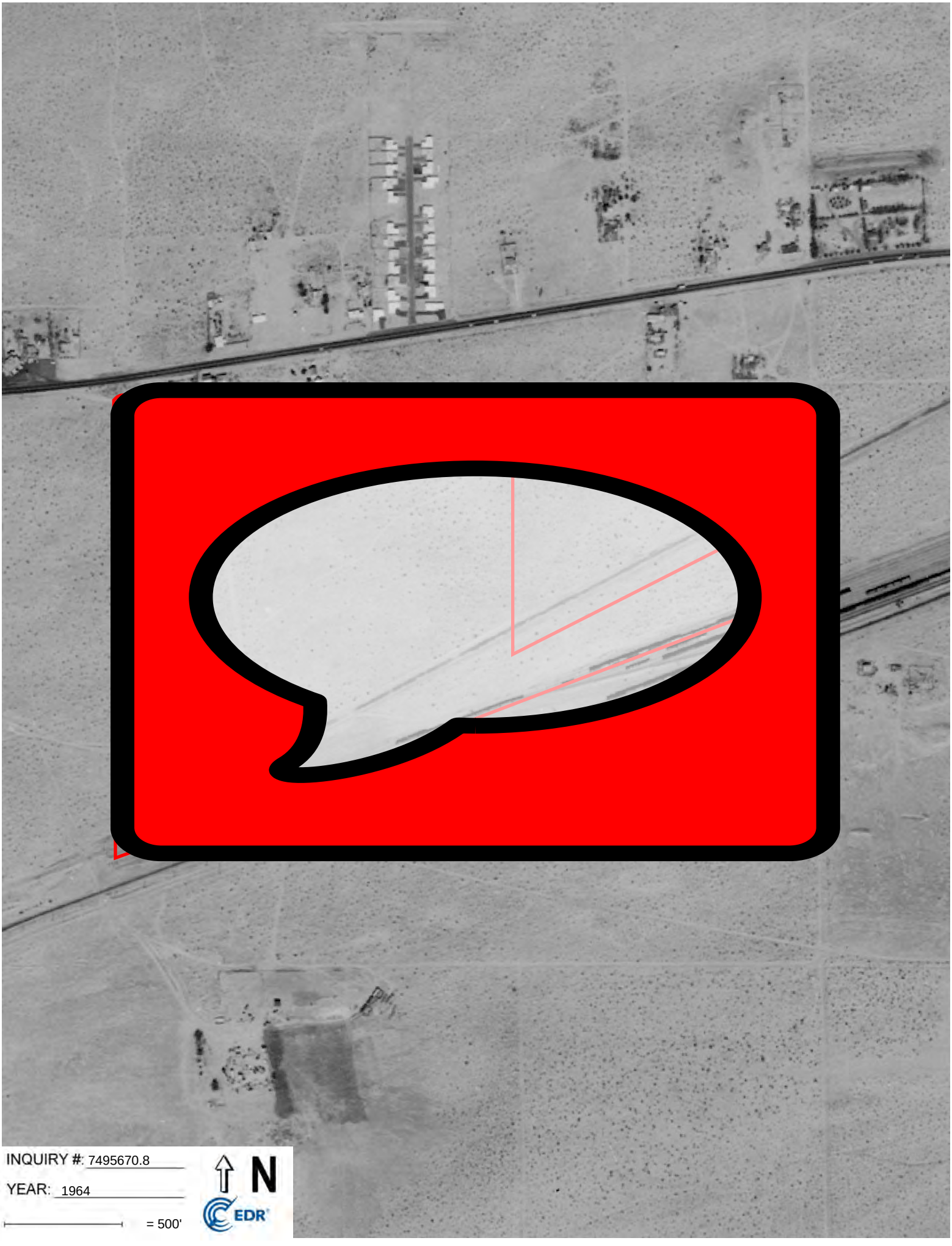
INQUIRY #: 7495670.8

YEAR: 1970

= 500'

N

EDR



INQUIRY #: 7495670.8

YEAR: 1964

= 500'

N

EDR



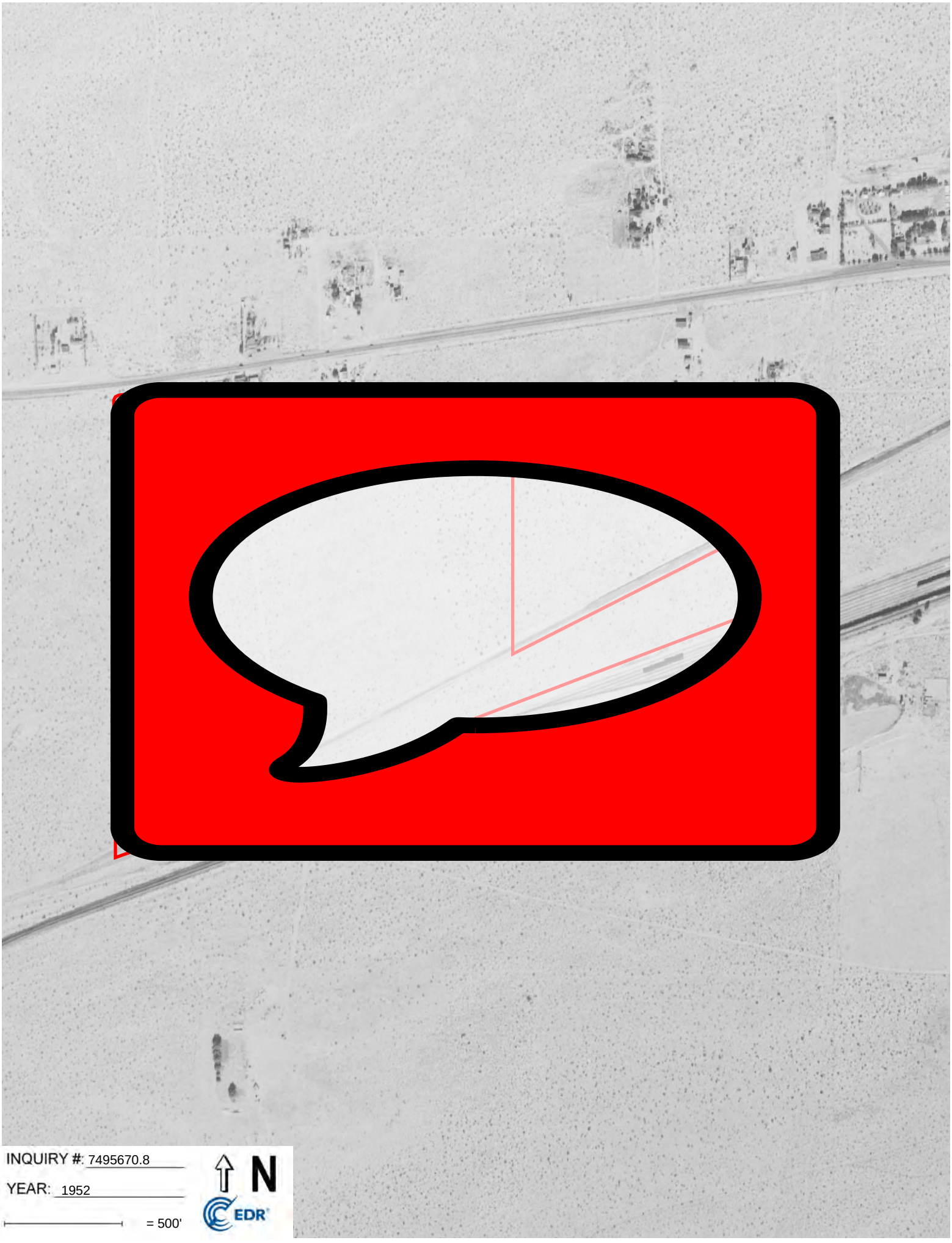
INQUIRY #: 7495670.8

YEAR: 1959

= 500'

N

EDR



INQUIRY #: 7495670.8

YEAR: 1952

= 500'

N

EDR

Yermo Phase I

37265 Yermo Road

Yermo, CA 92398

Inquiry Number: 7495670.4

November 13, 2023

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/13/23

Site Name:

Yermo Phase I
37265 Yermo Road
Yermo, CA 92398
EDR Inquiry # 7495670.4

Client Name:

GeoSyntec Consultants
16644 West Bernardo Drive SUITE 301
SAN DIEGO, CA 92127
Contact: Victoria Severin

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by GeoSyntec Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# TBD

Project: Yermo Phase I SC1247

Coordinates:

Latitude:	34.8985 34° 53' 55" North
Longitude:	-116.845748 -116° 50' 45" West
UTM Zone:	Zone 11 North
UTM X Meters:	514093.12
UTM Y Meters:	3861798.05
Elevation:	1948.00' above sea level

Maps Provided:

2021
2018
2015
2012
1983
1970, 1971
1956
1953

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

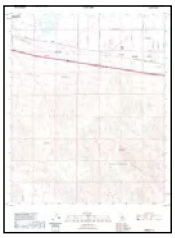
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets



Yermo
2021
7.5-minute, 24000

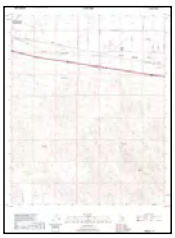


Minneola
2021
7.5-minute, 24000

2018 Source Sheets



Yermo
2018
7.5-minute, 24000



Minneola
2018
7.5-minute, 24000

2015 Source Sheets

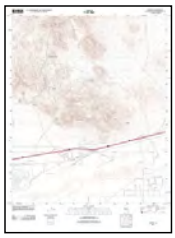


Yermo
2015
7.5-minute, 24000



Minneola
2015
7.5-minute, 24000

2012 Source Sheets



Yermo
2012
7.5-minute, 24000



Minneola
2012
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1983 Source Sheets



DAGGETT
1983
15-minute, 50000

1970, 1971 Source Sheets

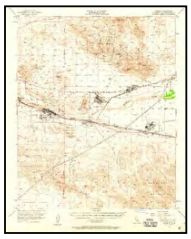


Yermo
1970
7.5-minute, 24000
Aerial Photo Revised 1970



Minneola
1971
7.5-minute, 24000
Aerial Photo Revised 1970

1956 Source Sheets



Daggett
1956
15-minute, 62500
Aerial Photo Revised 1951

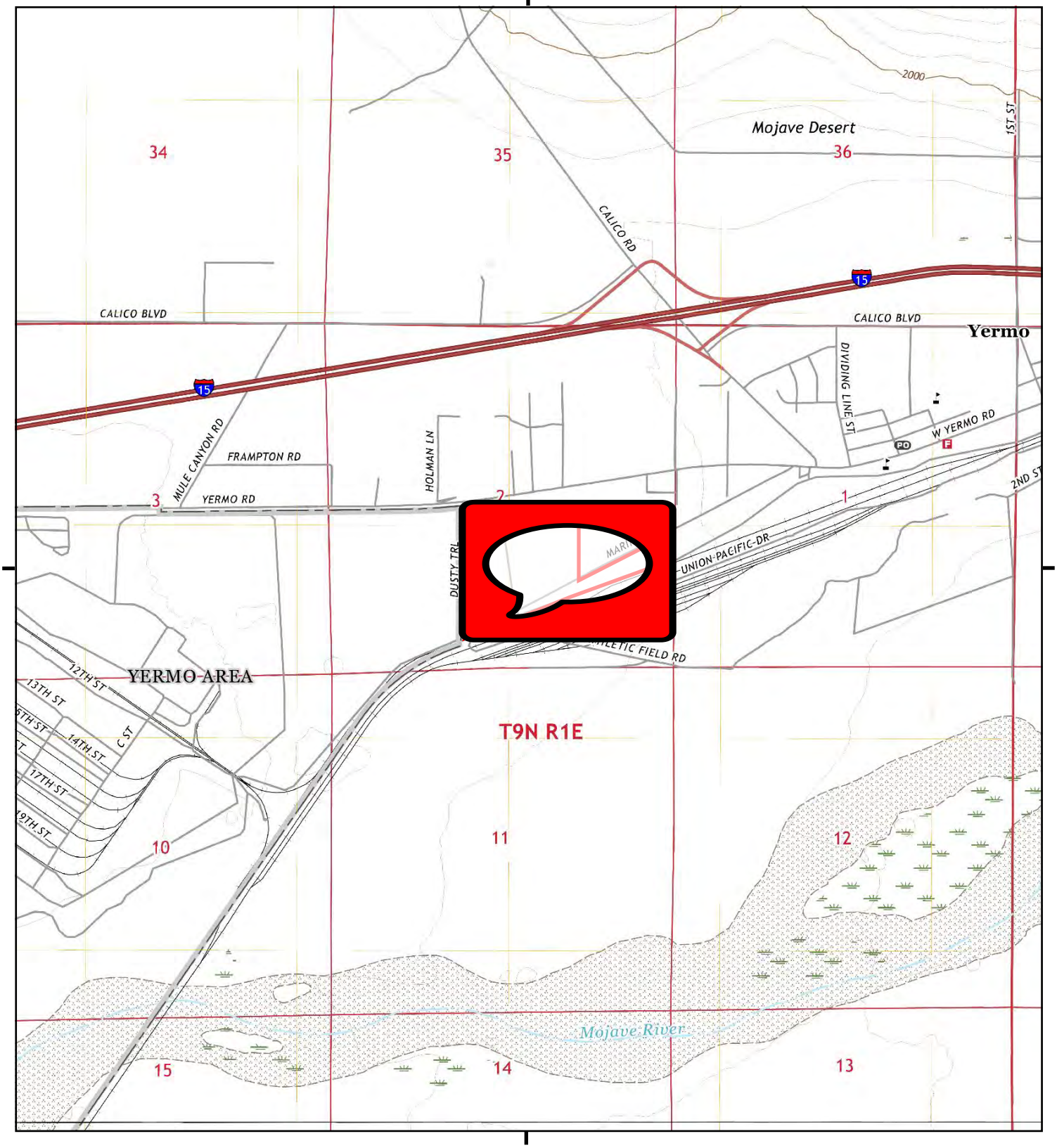
1953 Source Sheets



Yermo
1953
7.5-minute, 24000
Aerial Photo Revised 1951

Historical Topo Map

2021



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

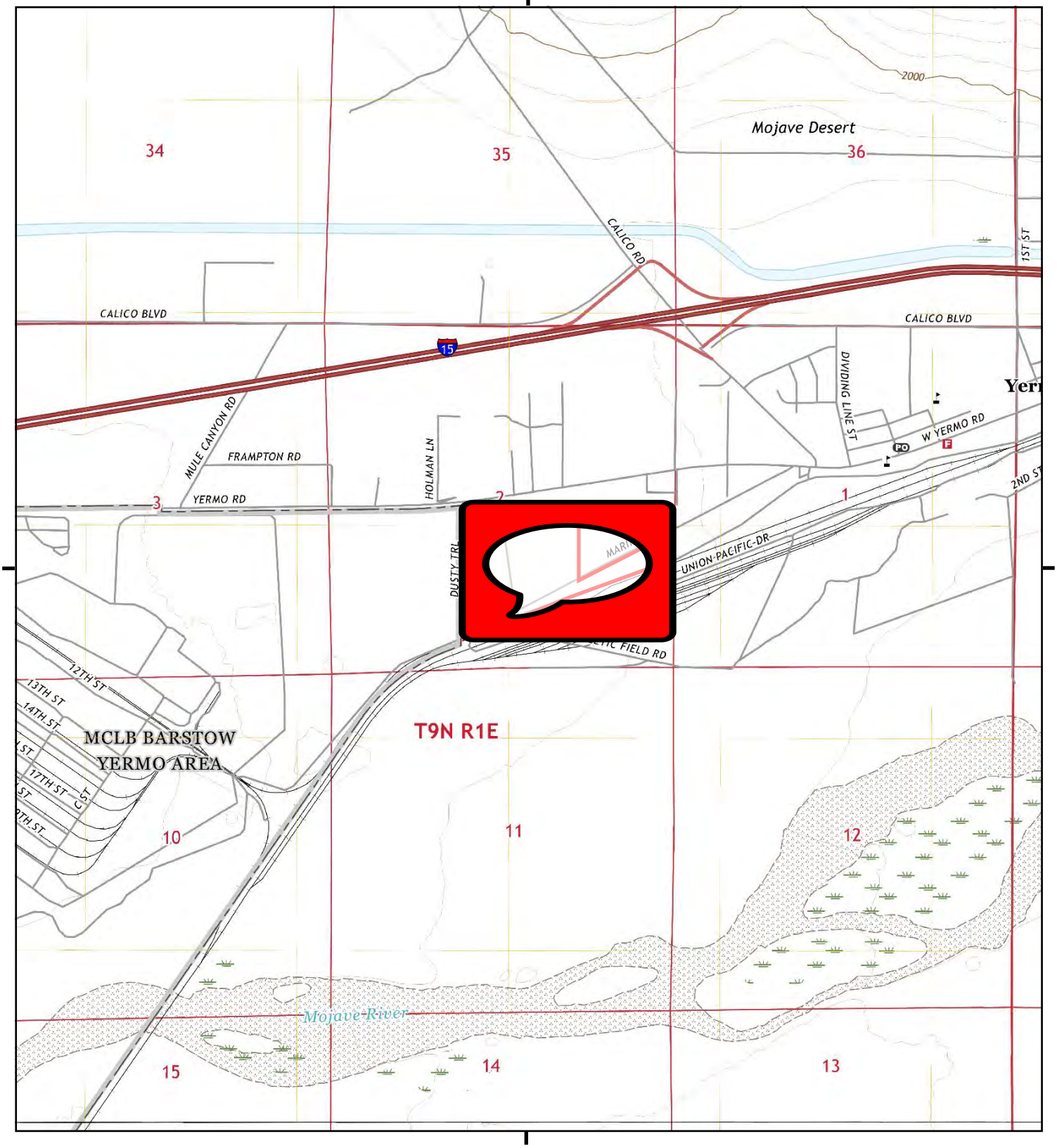
TP, Yermo, 2021, 7.5-minute
S, Minneola, 2021, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

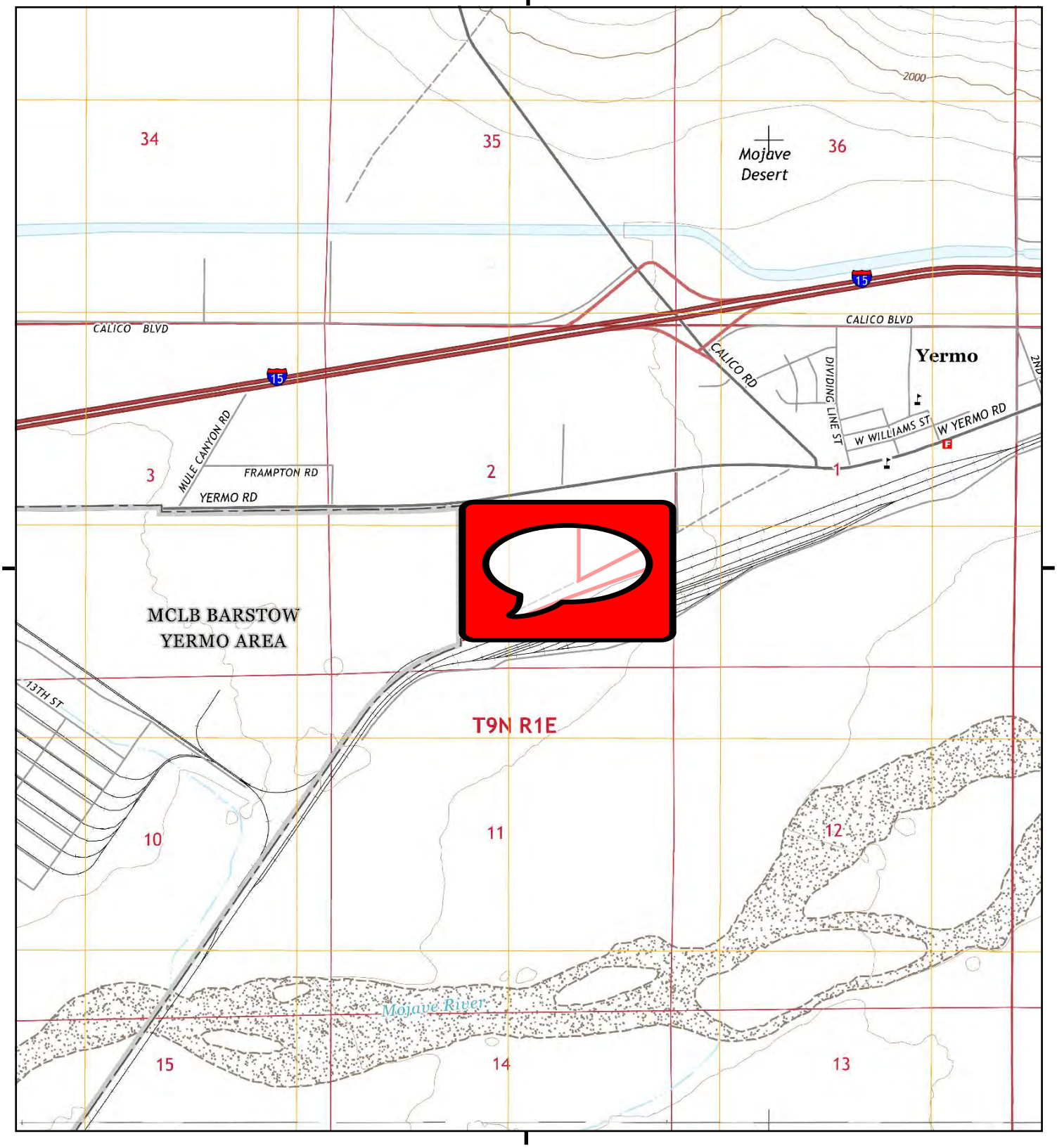
TP, Yermo, 2018, 7.5-minute
S, Minneola, 2018, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

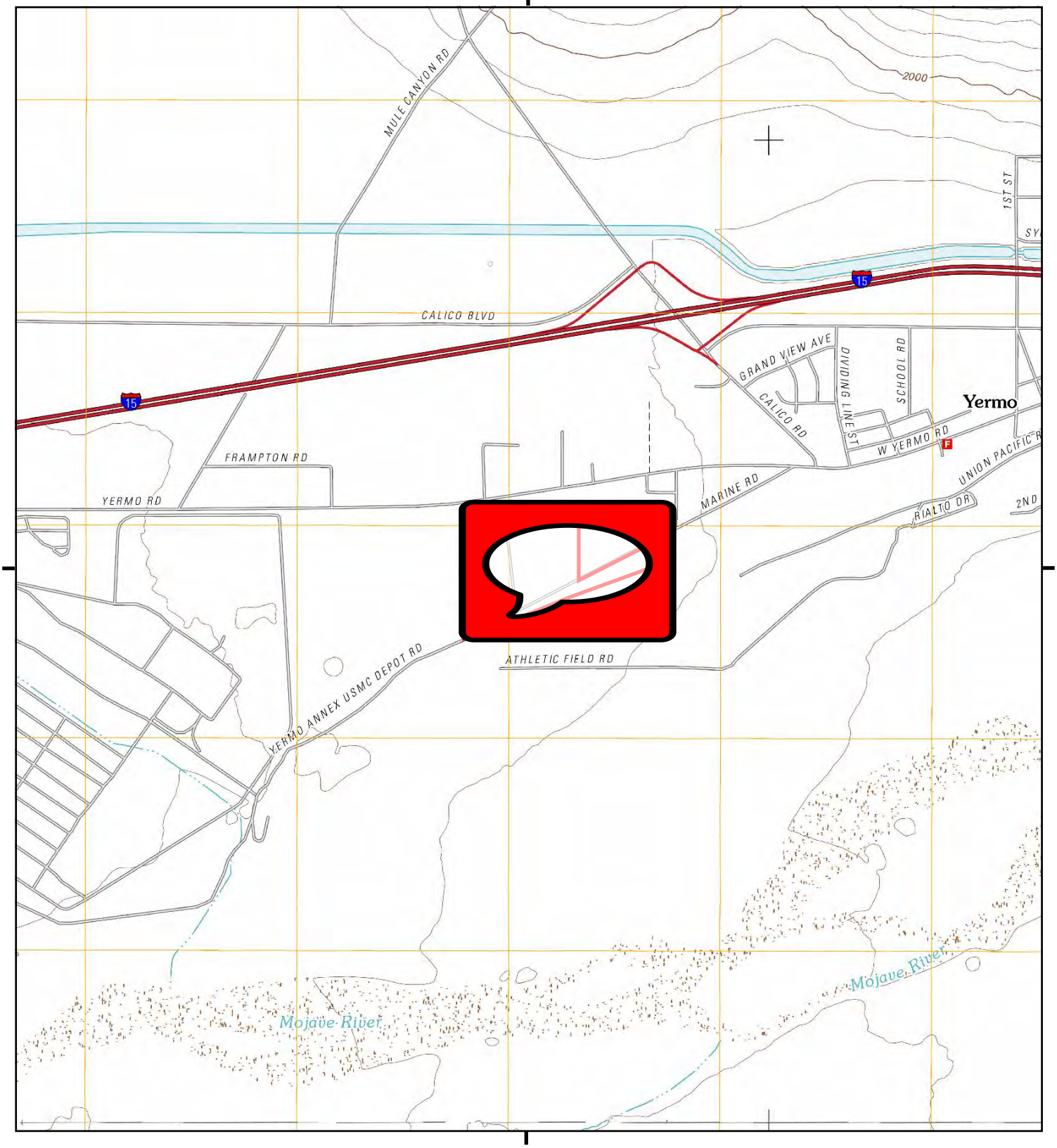
TP, Yermo, 2015, 7.5-minute
S, Minneola, 2015, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

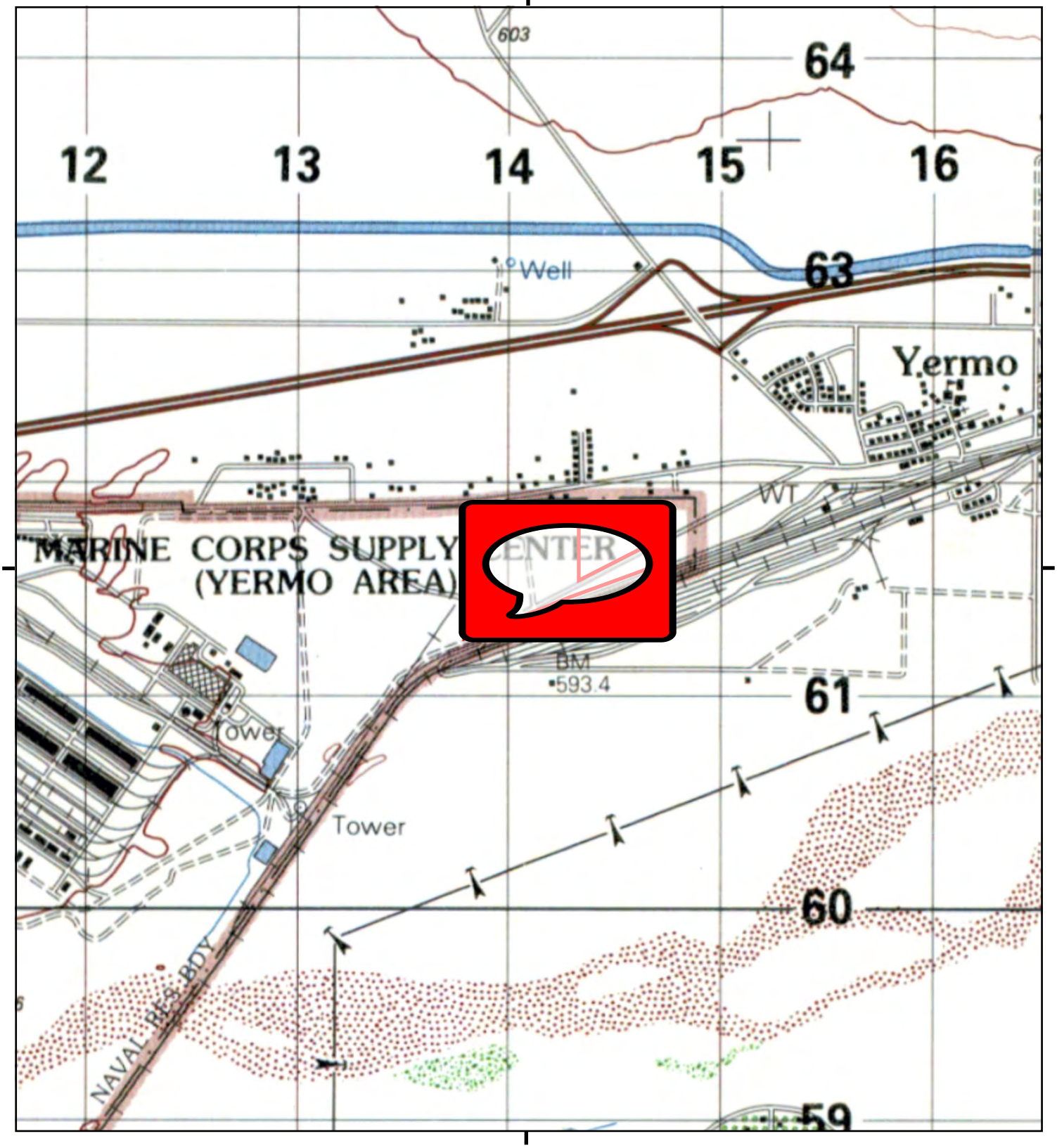
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Yermo, 2012, 7.5-minute
S, Minneola, 2012, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N



This report includes information from the following map sheet(s).

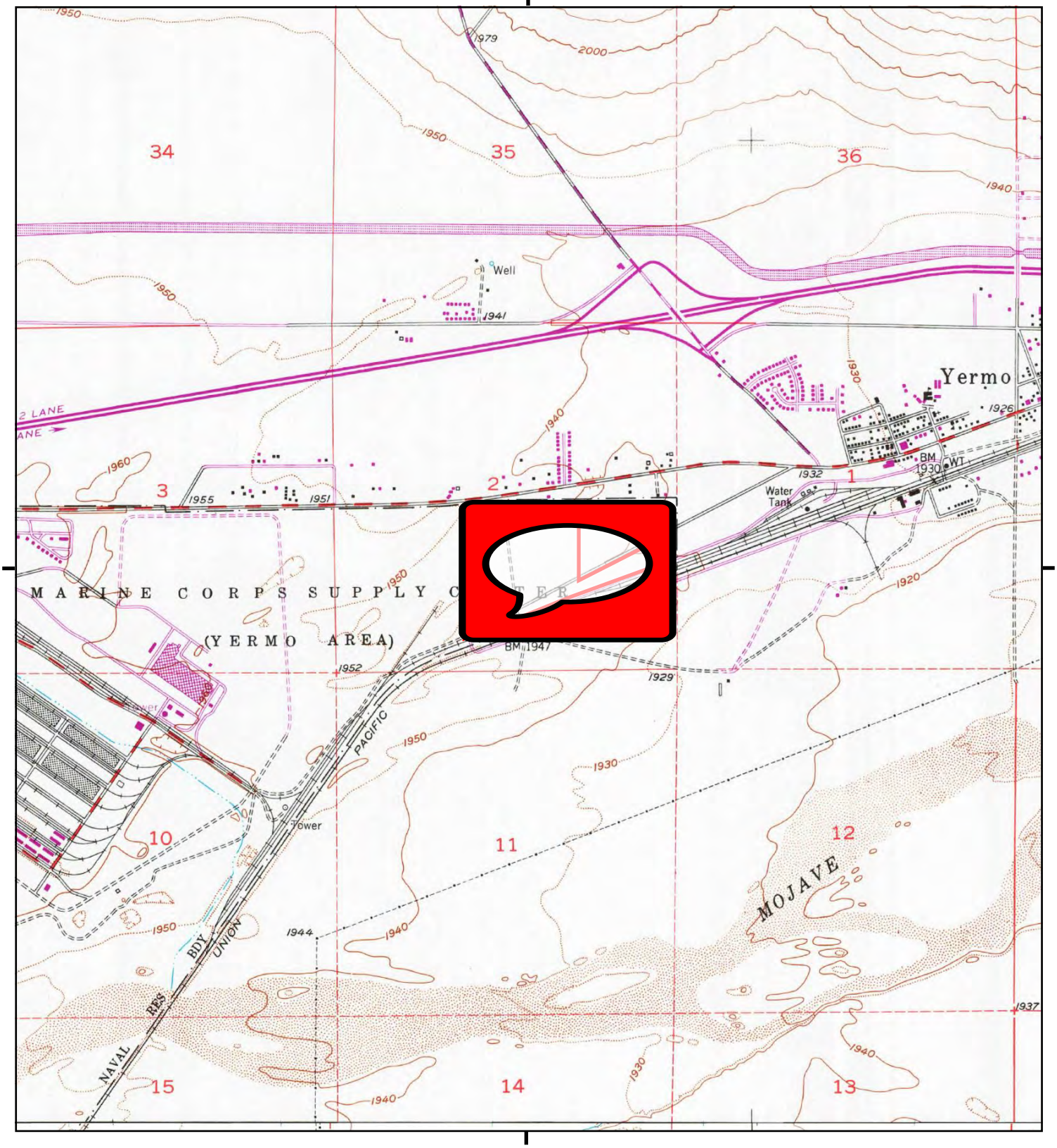
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, DAGGETT, 1983, 15-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N



This report includes information from the following map sheet(s).

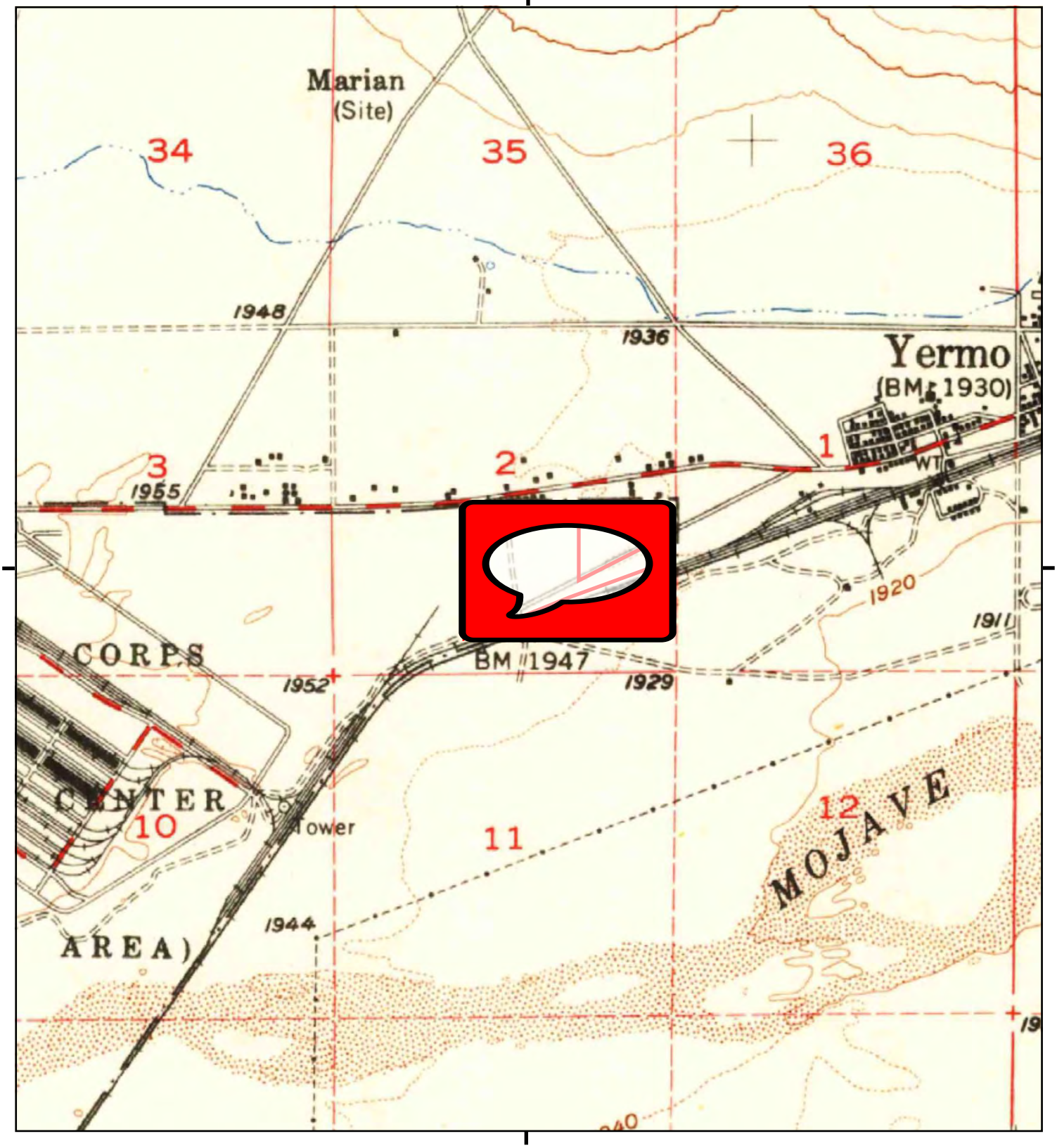
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Yermo, 1970, 7.5-minute
S, Minneola, 1971, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N



This report includes information from the following map sheet(s).

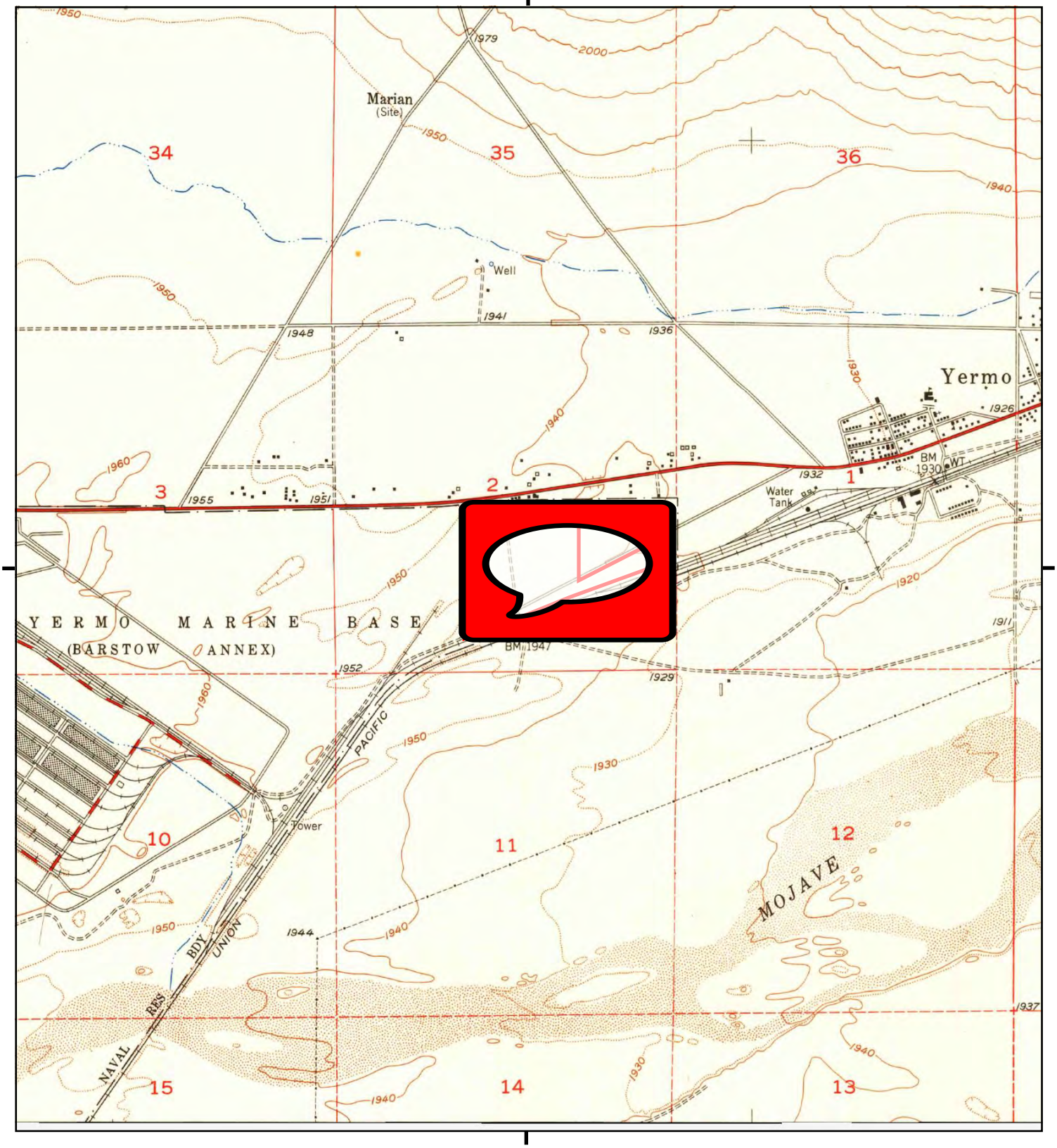
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Daggett, 1956, 15-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Yermo, 1953, 7.5-minute

SITE NAME: Yermo Phase I
ADDRESS: 37265 Yermo Road
Yermo, CA 92398
CLIENT: GeoSyntec Consultants

N

Yermo Phase I
37265 Yermo Road
Yermo, CA 92398

Inquiry Number: 7495670.5
November 15, 2023

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☐	EDR Digital Archive
2017	☑	☐	Cole Information
2014	☑	☐	Cole Information
2010	☐	☐	Cole Information
2005	☑	☐	Cole Information
2000	☑	☐	Cole Information
1995	☑	☐	Cole Information
1992	☑	☐	Cole Information
1986	☑	☐	Cole Criss-Cross Directory
1980	☑	☐	Cole Criss-Cross Directory
1976	☑	☐	Cole Criss-Cross Directory
1971	☐	☐	Cole Criss-Cross Directory
1964	☐	☐	Luskey Brothers & Co. Publications

FINDINGS

TARGET PROPERTY STREET

37265 Yermo Road
Yermo, CA 92398

Year	*CD Image*	*Source*	
YERMO RD			
2020	pg A1	EDR Digital Archive	
2017	pg A2	Cole Information	
2014	pg A3	Cole Information	
2010	-	Cole Information	Street not listed in Source
2005	pg A4	Cole Information	
2000	pg A5	Cole Information	
1995	pg A6	Cole Information	
1992	pg A7	Cole Information	
1986	pg A8	Cole Criss-Cross Directory	
1980	pg A9	Cole Criss-Cross Directory	
1976	pg A10	Cole Criss-Cross Directory	
1971	-	Cole Criss-Cross Directory	Street not listed in Source
1964	-	Luskey Brothers & Co. Publications	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

YERMO RD 2020

37206 ROBERT PARKER
37334 BETTY FERNANDEZ
ELIASAR FERNANDEZ

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 2017

35474 AMPM

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 2014

301 SMITH, LUCILLE E
35474 DESERT AMPM

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 2005

38779 SIMMONS, DAVID L

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 2000

37206	PALMER, FRANK C
37234	HOLMAN, HAROLD
37330	FERNANDEZ, LEE
37380	MCMANUS, MELANIE

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 1995

567 HARLOW, STANLEY
35474 CIRCLE C MINIMART

Target Street	Cross Street	Source
✓	-	Cole Information

YERMO RD 1992

37206	OTT, OTTO W
	PALMER, FRANK C
37265	SHULTZ, PEGGY L
37272	HAINES, BILL R
37330	FERNANDEZ, LEE
37334	OLAUGHLIN, A M
37380	WICKS, R W

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

YERMO RD 1986

37016	CONRAD JERRY H	254-2269	7
37166	BUDINGER FRED E JR	254-2110	7
	PALMER FRANK C	254-2097	
37206	OTT OTTO W	254-2177	
37306	XXXX	00	
37308½	FERNANDEZ BETTY	254-2152	4
	FERNANDEZ LEE	254-2152	
37372	XXXX	00	
37420	XXXX	00	
37430	JOHNSON J J	254-3287	+6
	VEA R R	254-3287	+6
37430½	STEWART S L	254-2812	4
37692	THORN RAYMOND E	254-3342	+6

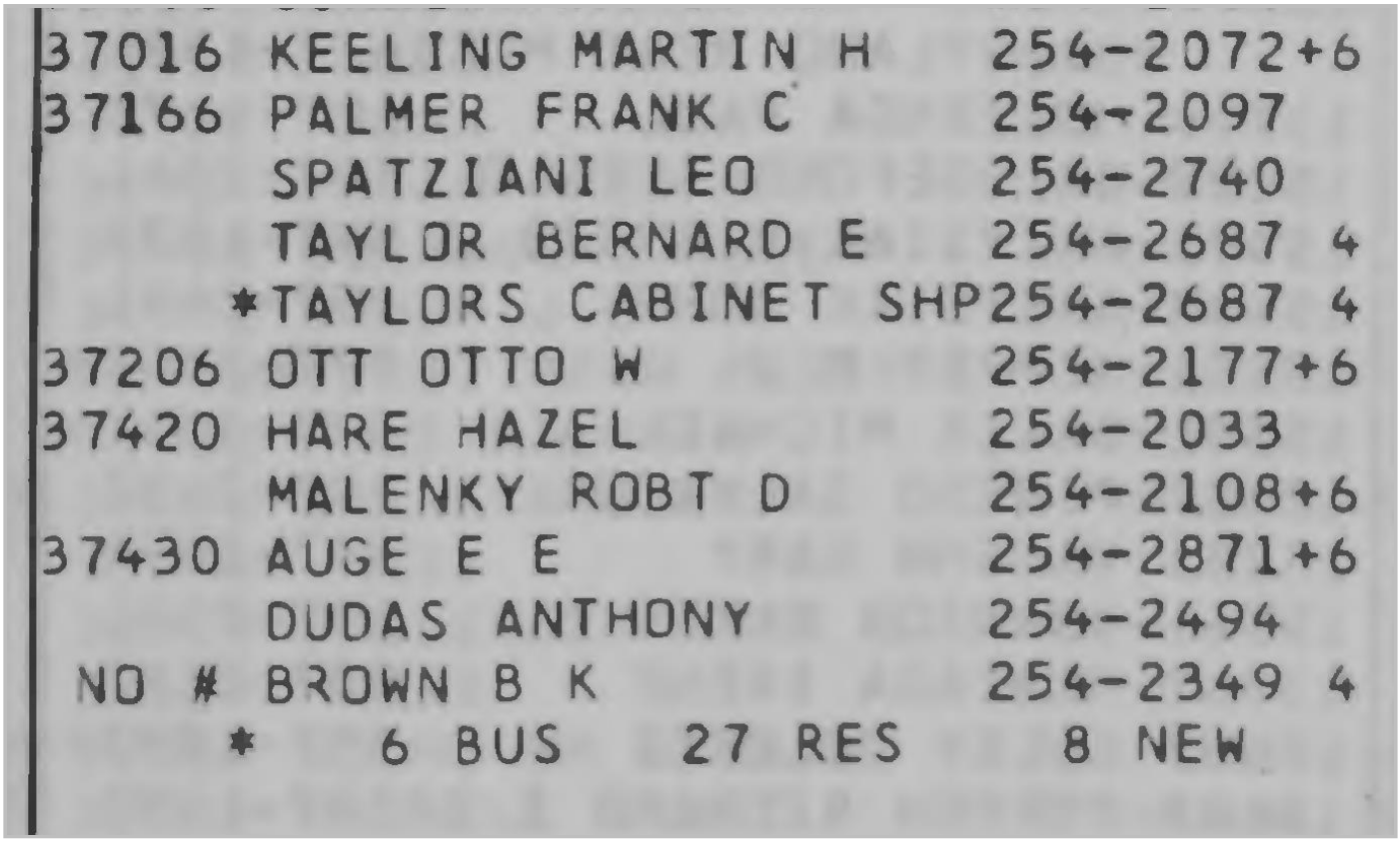
Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

YERMO RD 1980

37016	XXXX	00	
37166	BUDINGER FRED E JR	254-2110	7
	PALMER FRANK C	254-2097	
37206	OTT OTTO W	254-2177	6
37420	HARE HAZEL	254-2033	
37430	AUGE E E	254-2871	6
38434★	NOKIS TACO	254-2310	+0
38737★	ALMETAS BTY SALON	254-2721	+0

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

YERMO RD 1976



37016	KEELING MARTIN H	254-2072+6
37166	PALMER FRANK C	254-2097
	SPATZIANI LEO	254-2740
	TAYLOR BERNARD E	254-2687 4
	*TAYLORS CABINET SHP	254-2687 4
37206	OTT OTTO W	254-2177+6
37420	HARE HAZEL	254-2033
	MALENKY ROBT D	254-2108+6
37430	AUGE E E	254-2871+6
	DUDAS ANTHONY	254-2494
NO #	BROWN B K	254-2349 4
	* 6 BUS 27 RES 8 NEW	

Yermo Phase I

37265 Yermo Road

Yermo, CA 92398

Inquiry Number: 7495670.3

November 13, 2023

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/13/23

Site Name:

Yermo Phase I
37265 Yermo Road
Yermo, CA 92398
EDR Inquiry # 7495670.3

Client Name:

GeoSyntec Consultants
16644 West Bernardo Drive SUITE 301
SAN DIEGO, CA 92127
Contact: Victoria Severin

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by GeoSyntec Consultants were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # E37E-4DFB-B8BF

PO # TBD

Project Yermo Phase I SC1247

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: E37E-4DFB-B8BF

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

GeoSyntec Consultants (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA), ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT. Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2023 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

Appendix C

Ami Adini
Environmental Services, Inc.

PHASE I ENVIRONMENTAL SITE ASSESSMENT

37265 Yermo Road, Yermo, California 92398
Assessor Parcel Numbers (APNs) 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

Prepared for
World Energy LLC
October 29, 2022



Project No. WorldEnergy_P09

1837 N Berendo St • Los Angeles, California 90027
323.899.5001 • www.amiadini.com • amia@amiadini.com

Ami Adini
Environmental Services, Inc.

October 29, 2022, 2022
Project No. WorldEnergy_P09
Via PDF

Anuya Dickinson
Environmental Compliance Engineer
World Management Group, LLC
14700 Downey Avenue
Paramount, CA 90723
P. 562.748.4706 | M. 562-577-1411
E. adickinson@worldenergy.net

Re: Phase I Environmental Site Assessment Report
37265 Yermo Rd, Yermo, CA 92398

Dear Ms. Dickinson:

Ami Adini Environmental Services, Inc. (AAES), has prepared this report to present the results of a Phase I Environmental Site Assessment (Phase I) for the referenced property. The attached report presents our methodology, findings, opinions, conclusions and recommendations regarding environmental conditions at the project site.

The Phase I was performed in general accordance with the American Society for Testing and Materials (ASTM) Designations E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* and ASTM E 2600-10 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*.

If you have any questions, please call me at (323) 899-5001.

Respectfully submitted,
AMI ADINI ENVIRONMENAL SERVICES, INC.

Registered Environmental Professional
NREP
Ami Adini
Date: 10/29/22
2614

Principal Environmental Consultant
Environmental Professional 40 CFR § 312.10
NREP Registered Environmental Professional #2614
Calif. RMO, A/B/HAZ/ASB, General Eng./Haz. Substance Removal Contractor # 1009513
Former California Registered Environmental Assessor Level II #20244
B. Sc. Mechanical Engineering

TABLE OF CONTENTS

1.0 General Information 1
2.0 Executive Summary 2
2.1 Subject Property Description 2
2.2 Data Gaps 2
2.3 Environmental Report Summary 2
2.4 Recommendations 3
3.0 Introduction 4
3.1 Purpose 4
3.2 Scope of Work 4
3.3 Significant Assumptions 5
3.4 Limitations and Exceptions 5
3.5 Deviations 6
3.6 Special Terms and Conditions 6
3.7 Reliance 7
4.0 User-Provided Information 8
4.1 Activity/Use Limitations 8
4.2 Specialized Knowledge 9
4.3 Valuation Reduction for Environmental Issues 9
4.4 Owner, Subject Property Manager, and Occupant Information 9
4.5 Reason For Performing Phase I ESA 9
5.0 Subject Property Description 10
5.1 Location and Legal Description 10
5.2 Subject Property and Surrounding Area Description 10
5.3 Current Use of Subject Property 10
5.4 Description of Structures and Other Improvements 10
5.5 Adjoining Property Information 10
6.0 Site Reconnaissance 11
6.1 Methodology and Limiting Conditions 11
6.2 General Subject Property Setting 11
6.3 Site Visit Findings 11
6.3.1 Hazardous Substances 12
6.3.2 Petroleum Products 12
6.3.3 Underground Storage Tanks (USTs) 12
6.3.4 Aboveground Storage Tanks (ASTs) 12
6.3.5 Strong, Pungent, or Noxious Odors 12
6.3.6 Standing Surface Water and Pools or Sumps Containing Liquids Likely to be Hazardous Substances or Petroleum Products 12
6.3.7 Drums, Totes, and Intermediate Bulk Containers 12
6.3.8 Hazardous Substance and Petroleum Product Containers Not in Connection With Identified Uses 12
6.3.9 Unidentified Substance Containers 12
6.3.10 PCB-Containing Items 12
6.3.11 Stains or Corrosion on Floors, Walls, or Ceilings 12
6.3.12 Drains and Sumps 13
6.3.13 Pits, Ponds, or Lagoons 13
6.3.14 Solid Waste 13

6.3.15 Stained Soil or Pavement....13
6.3.16 Stressed Vegetation....13
6.3.17 Wells....13
6.3.18 Other....13
7.0 Records Review....14
7.1 Standard Environmental Record Resources....14
7.2 Additional Environmental Record Resources....18
7.3 Physical Setting....19
7.3.1 Geography, Topography and Physiography....19
7.3.2 Surface Water Bodies....19
7.3.3 Geology, Hydrology and Hydrogeology....19
7.4 Historical Use....20
7.4.1 Historical Summary....20
7.4.2 City Directories....21
7.4.3 Aerial Photos....21
7.4.4 Sanborn/Historical Maps....22
7.4.5 Historical Topographic Maps....22
7.4.6 Previous Environmental Reports....23
7.4.7 Building Department Records....23
7.4.8 Title Records....23
7.4.9 Other Historical Records....23
7.5 Environmental Liens and Activity/Use Limitations....24
7.6 Vapor Encroachment Evaluation....24
8.0 Interviews....25
9.0 Findings and Opinions....26
10.0 Conclusions....28
11.0 Recommendations....29
12.0 References....30

Appendices

Appendix A: Figures....31
Appendix B: Photographs....39
Appendix C: Historical Research....85
Appendix D: Regulatory Records....144
Appendix E: Regulatory File Review....465
Appendix F: Vapor Encroachment Evaluation....467
Appendix G: Qualifications....469
Appendix H: Additional Documentation....471

1.0 GENERAL INFORMATION

Project Information:
WorldEnergy_P09
Project Number:
WorldEnergy_P09

Consultant Information:
Ami Adini Environmental Services Inc.
1837 North Berendo Street
Los Angeles, CA 90027
Phone: (323) 899-5001
E-mail Address: amia@amiadini.com
Inspection Date: 10/19/2022
Report Date: October 29, 2022

Site Information:
37265 Yermo
37265 Yermo Road
Yermo, CA 92398
Latitude, Longitude: 34.897431, -116.847533
Site Access Contact: Graeme Carr

Client Information:
World Management Group, LLC
Anuya Dickinson
14700 Downey Avenue
Paramount, CA 90723

Ami Adini Environmental Professional (40 CFR Part 312.10)





Certification:

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR Part 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



2.0 EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (Phase I ESA) performed by Ami Adini Environmental Services, Inc. (AAES), for *World Management Group, LLC,* of Paramount, California, regarding the property located at 37265 Yermo Road, California 92398; San Bernardino County Assessor's Parcel Numbers (APNs) 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000.

Appendix A, Figures
Appendix B, Photographs

The purpose of the Phase I process was to identify *recognized environmental conditions (RECs)*. For the purpose of this report, and as defined by ASTM Standard Practice E1527-21, the term *recognized environmental condition* means (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. The term *de minimis condition* means a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

2.1 Subject Property Description

The subject property is located in Yermo, California, an unincorporated community in the Mojave Desert in San Bernardino County, 13 miles east of Barstow on Interstate 15, just south of the Calico Mountains. In 2009, population was estimated at 1,750.

> **Appendix A**, **Figures**, provides information on the site features and its surroundings.
> **Appendix B, Photographs**, provides detailed photography enriched with commentaries..

The subject property is an irregular, 6-side-polygon made of combination four lots totaling 79.6 acres of vacant land, in a mixed district of residential, commercial, industrial and military occupancies.

Yermo hosts the 1,859-acre storage and industrial annex of the Marine Corps Logistics Base Barstow.

Elevation at the subject site is 1,951 feet above mean sea level. The land is generally flat in all directions.

2.2 Data Gaps

A data gap is a lack of or inability to obtain information required by Practice E1527-21 despite good faith efforts by the environmental professional to gather such information. The presence of data gaps may be indicative of RECs, depending on the significance of the data gap.

Significant data gaps were not encountered in this Phase I ESA.

2.3 Environmental Report Summary

Practice E1527-21 defines migrate and migration as the movement of hazardous substances or petroleum products in any form, including vapor in the subsurface. Thus, AAES considered possible migration of hazardous soil vapors onto the subject property.

In the case of the subject property, there is a situation of massive releases of contaminants into the environment at the westerly adjoining MCLB, Barstow B570, Marine Corps Logistic Base that is a CERCLA site on the National Priority List (NPL). The releases have been of such magnitude that this site has been

2.3 Environmental Report Summary (continued)

assigned a CERCLA status of NPL. The subject property sits on the edge of a contaminated groundwater plume with source points at the marine base. There are 45 source- and/or treatment-sites at the base. The impacted media are soil, soil-vapor and groundwater. The contaminants of concerns (COCs) include PCE in significant levels. See **Appendix A, Figure 5** and see **Table 1** enclosed behind that Figure. Five (5) of the source/treatment places are in less than a mile from the subject property westerly line, the closest one 2,660 feet west with active air sparging and soil vapor extraction. The subsurface soils are alluvial fan deposit: unconsolidated, gravel, sand, silt and clay, a type of geology that is conducive to migration of vapors.

The Marine base has contaminated soil, soil-vapor and groundwater. The plumes of contamination in the soil are limited to the proximities of their origins and present no concerns to the subject property. The plumes of contamination in the groundwater have spread afar, and groundwater flow is to the northeast toward the subject property. It seems, however, that the contaminated groundwater barely reached the western line of the subject property and even if it has invaded: with groundwater at 120-200 feet below ground, the plume is unlikely to present a threat to occupants at the subject property and unlikely to ever be a cause of enforcement actions against owners of, or occupants at subject property. Thus, the groundwater contamination is a *de minimis* condition for the subject property.

In the eyes of AAES, a concern, however, lies in the prospects of having soil at the subject property laden with vapors of PCE migrating from sources at the marine base. AAES ran a cursory research of all reports from the marine base site that have been uploaded to GeoTracker, and AAES has not found a single report that dealt with the aspect of migration of PCE in the soil vapor. The concern is of PCE vapors from the base invading the subject property by advection and diffusion in the soil matrix and/or evaporation from the contaminated groundwater plume underneath. It would take a great effort of studying scores of reports of the past 26 years to arrive at an evaluation of such prospects, evaluation that will still remain in the theoretical sphere of thought. Probably the cheapest, most affirmative route would be to take some soil-vapor samples at the subject property.

For now, we have this situation of likely presence of hazardous soil vapors at the subject property, originating from releases at the adjoining marine base. This would constitute an *REC* per ASTM Standard Practice E1527-21; but then, the user of this report has indicated their objectives for the site to be used as a laydown area where structures would not generally be constructed. Such future eliminates the specter of toxic vapor intrusion to occupied spaces, thus no threat to human health; a situation that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies; thus, a *de minimis* condition.

The resulting opinion of AAES is that there is a possibility of intrusion of hazardous substances into the soil vapor at the subject property from the adjoining NPL site, and this condition can be declared as either *REC* or *de minimis* relative the future that is planned by the user of this report for the subject property.

Another condition in, on and at four separate areas at the subject property is the presence of unauthorized, illegal dumps of imported dirt, dilapidated household appliances and debris. This condition is photographed in **Appendix B**, and a map of the impacted locations is in **Figure 6** of **Appendix A.** AAES estimates each dump on the order of 10-30 truckloads. At one point or another, as a pre-condition to disturbance or disposal of the dumps or when the property is developed, these piles should be tested for hazardous substances and handled accordingly. AAES assigns a *de minimis* condition to these dumps until such time that they are disturbed; at which time they will rise to the level of *RECs.*

2.4 Recommendations

AAES determined the unique existence of *Recognized Environmental Conditions (RECs)* and *de minimis* conditions in dualities at the subject property relative to likely presence of hazardous vapors in the soil and relative to presence of potentially contaminated illegal dumps. A Phase II Environmental Site Assessment can reduce these uncertainties.

3.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (Phase I ESA) performed by Ami Adini Environmental Services, Inc. (AAES), for *World Management Group, LLC, of* Paramount, California regarding the property located at 37265 Yermo Road, California 92398; San Bernardino County Assessor's Parcel Numbers (APNs) 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000.

Appendix A, Figures
Appendix B, Photographs

3.1 Purpose

The purpose of the Phase I was to identify any recognized environmental conditions (RECs) in order to assist in the evaluation of historical land use at the site, assess for potential environmental impacts on- and off-site, and to determine the degree to which any potential environmental impacts may affect on-site occupants, off-site individuals, and the environment as part of a property transaction. The Phase I was also intended to assist in determining whether further action is needed to characterize and/or mitigate environmental impacts identified during the Phase I.

This Phase I was performed to permit the User to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) liability (hereinafter, the "landowner liability protections," or "LLPs"). ASTM Standard Practice E1527-21 constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

For the purpose of this report, and as defined by the American Society for Testing and Materials (ASTM), "The term *recognized environmental condition* means (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. A *de minimis* condition is not a recognized environmental condition."

ASTM defines *de minimis* as "a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

3.2 Scope of Work

The Phase I ESA was performed in general accordance with the requirements of ASTM Designation E 1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process and Final All Appropriate Inquiry (AAI) Standards.

The scope of work included the following tasks:

- A site visit to observe current and past conditions and uses of the property and adjacent properties;
- A review of federal, state, tribal, and local regulatory databases including, but not limited to, underground storage tanks (USTs), aboveground storage tanks (ASTs), known or suspected release cases, the storage of hazardous substances and disposal of hazardous wastes including petroleum products, and institutional and engineering controls;
- A review of historical records, such as historical aerial photographs, fire insurance maps (Sanborn maps), historical city directories, and historical topographic maps;

3.2 Scope of Work (continued)

- Research for current environmental liens and activity and use limitations (AULs) on the subject property;
- A review of state and local agency records, including but not limited to state environmental agencies, Building Departments, Fire Departments, and Health Departments;
- Interviews with current and past property owners, operators, and occupants, or others familiar with the property;
- Interviews with the *Report User* for title or judicial records for environmental liens and activity and use limitations (AULs); specialized knowledge or experience; actual knowledge; commonly known or reasonably ascertainable information; the reason for a significantly lower purchase price; and the reason for the preparation of the Phase I ESA. It is the User responsibility to provide this information to qualify for the innocent landowner defense;
- Complete environmental site questionnaire forms; and,
- Prepare and submitted this Phase I report to *World Management Group, LLC.*

3.3 Significant Assumptions

Based on the initial site information provided by Anuya Dickinson of World Management Group, LLC, the associated Assessor's Parcel Number (APN) for the property address range were obtained from the County of San Bernardino. AAES assumes that the following APNs correspond to the address provided for this site:

0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

3.4 Limitations and Exceptions

The work was conducted in general accordance with the requirements of the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-21 (ASTM E1527-21). AAES warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in ASTM E1527-21. There is a possibility that even with the proper application of these methodologies there may exist on the subject property conditions that could not be identified within the scope of the assessment or which were not reasonably identifiable from the available information.

AAES's work was performed using that degree of care and skill ordinarily exercised by reputable consultants practicing under similar conditions in this, or similar localities at the time the services were rendered. Information provided to AAES by client representatives and site contacts and information gathered from review of records has all been accepted in good faith and is assumed to be accurate. However, AAES cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. AAES's findings are based on observations and data collected at one point in time. Assessment results are based upon conditions and operations at the time of the site reconnaissance. A change in any of these factors may alter the findings and conclusions expressed by AAES.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This report is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

This report does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of ASTM E1527-21. Further, this report does not intend to address all of the safety concerns, if any, associated with the subject property.

3.4 Limitations and Exceptions (continued)

This report limits the research of environmental liens and activity and use limitations (AULs) to the subject property at the time of this report.

Environmental concerns, which are beyond the scope of a Phase I ESA as defined by ASTM include the following: Asbestos Containing Materials (ACMs), Lead Based Paint (LBP), Lead in Drinking Water (LIW). radon, wetland, regulatory compliance, endangered species, indoor air quality, mold, and substances that are not defined as *hazardous substances* or *petroleum products* (ref. ASTM E1527-21). These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment; however, they are considered non-scope issues.

It should be understood that a site reconnaissance, by nature, is limited in its ability to fully assess potential environmental liabilities associated with any real estate transaction. Further investigation would be required to identify potential environmental liabilities, which may be present at the site, but were beyond the scope of this Phase I. State and federal laws and regulations referenced in this report are provided for information purpose and should not be construed as legal opinion or recommendation.

3.5 Deviations

With exceptions noted below, there are no deviations from the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-21 (ASTM E1527-21).

This report limits the research of environmental liens and activity and use limitations (AULs) to the subject property at the time of this report.

3.6 Special Terms and Conditions

Diligent and reasonable efforts were exercised to identify environmental issues of an informational nature during the course of this investigation.

The scope of work was not intended to be absolute, identify all potential concerns, or eliminate the possibility of the site having some degree of environmental problem. No degree of assessment can ascertain that a site is completely free of hazardous substances; some regulatory and other pertinent data may be lacking which is significant to completing a full environmental profile of the subject property.

In preparing the report, AAES reviewed and interpreted certain information provided by third parties, including government authorities, registries of deeds, testing laboratories and other entities. AAES did not conduct an independent evaluation of the accuracy or completeness of such information, and is not responsible for any errors or omissions contained in such information.

The services performed by AAES did not include an analysis or determination as to whether the user is in compliance with federal, state, or local laws, statutes, ordinances, or regulations. It is the responsibility of the client/user, or of his representative, to ensure proper/legal disclosures to public, private and regulatory entities.

This report, which is the work product of AAES, has been produced in accordance with a specific contract between AAES and its client, who is represented by the party to whom this report is addressed.

This report is the work product for the sole use and benefit of the contracting client. It does not create any rights or benefits to parties other than the client and AAES, except such other rights as are specifically called for herein.

3.7 Reliance

The work was conducted in general accordance with the requirements of the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-21.

This report is certified to AAES's client, *World Management Group, LLC,* of Paramount, California. This report is the work product for the sole use and benefit of the contracting client. It does not create any rights or benefits to parties other than the client and AAES, and the client shall not permit a third party to rely on it without express consent by AAES.

AAES consents to the release of this report to third parties at the discretion of the client. However, any use of or reliance upon this information by a party other than the client shall be solely at the risk of such third party and without legal recourse against AAES, its affiliates, associates, employees, officers, or directors, regardless of whether the action in which recovery of the damage is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of AAES), statute or otherwise. This report shall not be used or relied upon by a party which does not agree to be bound by the above statement. This report is valid as of the date shown and AAES shall not be held responsible for subsequent changes in the physical or chemical or environmental conditions and/or legislation over which we have no control.

4.0 USER-PROVIDED INFORMATION

As specified in the ASTM Standard Practice, certain responsibilities lie with the user of the assessment. The user is defined as the party seeking to use Practice 1527-21 to complete an environmental site assessment of the subject property. A user may include, without limitation, a potential purchaser of subject property, a potential tenant of subject property, an owner of the subject property, a lender, or a property manager. The ASTM Standard Practice requires disclosure in the Phase I ESA whether the user of this Phase I report has specialized knowledge about previous ownership or uses of the property that may be material to identifying RECs, or whether the user has determined that the property's title contains environmental liens or other information related to the environmental condition of the property. The ASTM Standard also requires determining whether the user of this Phase I report has prior knowledge that the purchase price of the property has been reduced due to environmentally related reasons.

The user of the report is *World Management Group, LLC,* of Paramount, California.

AAES provided forms to the user to be filled out with information that would respond on the ASTM requirements of disclosure.

Forms to be responded on by the OWNER of the subject property:

- Environmental Checklist: Inquiring about 23 classes of documents to be provided if in possession by Owner
- ASTM Site Assessment Questionnaire, patterned after *ASTM Standard Practice E 1528-14 enhanced to meet ASTM E 1527-21*

Forms to be responded on by the USER of the Report:

- Environmental Docs Checklist: Inquiring about 23 classes of documents to be provided if in possession by User
- USER QUESTINNAIRE, a list of 26 questions, patterned after *Appendix X3 USER QUESIONNAIRE* in ASTM Standard Practice E1527-21 and enhanced by AAES

The user returned the following forms:

- Environmental Checklist, Owner: Responded on by Graeme Carr
- ASTM Site Assessment Questionnaire, Owner: Responded on by Graeme Carr
- Environmental Checklist, User: Responded on by Teresa Franco
- Phase 1 Report User Questionnaire: Responded on by Teresa Franco

The user, provided the following documents:

1) Phase I Environmental Site Assessment Report dated 12/5/2019, by *Encon Solutions Inc.,* of Los Angeles, California
2) An emailed memo of 10/19/2022 indicating the future use of the subject property as a laydown area where structures might not be constructed.

The filled out forms and documents are entered in **Appendix H, Additional Documentation.**

4.1 Activity/Use Limitations

The User did not provide information on Activity/Use Limitations relative to the subject property. This search was contracted to AAES and reported in Section 7.5 of this report.

AAES contracted with EDR to research environmental liens on the site. No environmental liens and no other activity and use limitations were reported for the site. The EDR report is provided in **Appendix C**.

4.2 Specialized Knowledge

The user did not respond on whether they had specialized knowledge concerning the subject property. AAES considers this lacking data immaterial, because there have never been any industrial or commercial operations on or at the subject property.

4.3 Valuation Reduction for Environmental Issues

The user indicated that the price being paid for this subject property reasonably reflected the fair market value of the property.

4.4 Owner, Subject Property Manager, and Occupant Information

The user indicated that the owner of the property was Graeme Carr.

4.5 Reason For Performing Phase I ESA

The user indicated that this Phase I assessment is done within the context of purchase of the subject property by the *user*.

5.0 SUBJECT PROPERTY DESCRIPTION

5.1 Location and Legal Description

According to San Bernardino County Assessor's Office, the subject property is located in the unincorporated community of Yermo, California. The property is described by the Assessor's Parcel Numbers (APNs) 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000.

The legal description is: PARCELS 1, 2, 3 AND 5 OF PARCEL MAP 11618, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, RECORDED IN MAP BOOK 151, PAGES 17 AND 18 OF PARCEL MAPS, RECORDS OF SAID COUNTY.

Reference: **Appendix c, Historical Research,** EDR Environmental Lien and AUL Search

Based on information provided by the client and the lien search, the property is currently owned by *S & M Sunland LLC Graeme G Carr Trustee*, title acquired from *George Sue Mfg Co* on 12/172019.

5.2 Subject Property and Surrounding Area Description

The subject property is located in Yermo, California, an unincorporated community in the Mojave Desert in San Bernardino County, 13 miles east of Barstow on Interstate 15, just south of the Calico Mountains. In 2009, population was estimated at 1,750.

See **Appendix A**, **Figures**, for information on the site features and its surroundings,

See **Appendix B, Photographs**, for detailed photography of the site features and its surroundings.

The subject property is an irregular, 6-sided polygon made of combination four lots totaling 79.6 acres of vacant land, in a mixed district of residential, commercial, industrial and military occupancies.

Yermo hosts the 1,859-acre storage and industrial annex of the Marine Corps Logistics Base Barstow.

Elevation at the subject site is 1,951 feet above mean sea level. The land is generally flat in all directions.

5.3 Current Use of Subject Property

Vacant, undeveloped, desert land.

5.4 Description of Structures and Other Improvements

The entire land is bare grounds. There are four isolated areas of unauthorized, imported dumping.

5.5 Adjoining Property Information

The subject property is currently surrounded by the following, adjoining properties:

- North: Yermo Road with a mix of residences and commercial beyond
- East: Residential
- South: Union Pacific Rail Road maintenance yard and depot
- West: Industrial annex of the Marine Corps Logistics Base Barstow.

6.0 SITE RECONNAISSANCE

This chapter provides the findings observed by AAES in the reconnaissance of the site and its surroundings.

Photos help with orientation, and AAES invested effort in detailed photography. **Appendix B, Photographs** presents a selection of 44 photographs.

Going through the photographs first can aid in the assimilation of the otherwise naked data provided in the following sections of this chapter.

6.1 Methodology and Limiting Conditions

On October 19, 2022, AAES's representative, Ami Adini (Adini), visited the site and the surrounding neighborhood.

The objective of the site reconnaissance was to obtain information indicating the likelihood of identifying RECs in connection with the site. Adini visually and physically observed the site and the structures located thereon to the extent that they were not obstructed by bodies of water, adjacent buildings, or other obstacles. Free access was allowed to all spaces. From there the inspection proceeded to the surrounding areas of the property and from there to the adjoining neighborhood in general. Before and after inspecting the site proper, Adini drove through the surrounding streets and photographed all items of interest.

Photographs documenting the conditions of the site and its surroundings during reconnaissance are provided in **Appendix B, Photographs**.

Appendix A, Figure 6, illustrates some areas of unauthorized/illegal dumping.

Appendix H, Additional Documentation provides the *ASTM Site Assessment Questionnaire* and the *Field Inspection Form* as completed by Adini, recording the site observations and conditions.

There were no conditions present that limited the site reconnaissance.

6.2 General Subject Property Setting

The lot is an irregular, 6-sided polygon made of combination four lots totaling 79.6 acres of vacant land, in s mixed ditricts of residential, commercial, industrial and military.

See **Appendix A, Figures** and **Appendix B, Photographs** for visual details.

Appendix H, Additional Documentation, provides the *ASTM Site Assessment Questionnaire* and the *Field Inspection Form* as completed by Adini, recording the site observations and conditions.

6.3 Site Visit Findings

See **Appendix A, Figures** and **Appendix B, Photographs** for visual details.

Appendix H, Additional Documentation, provides the *ASTM Site Assessment Questionnaire* and the *Field Inspection Form* as completed by Adini, recording the site observations and conditions.

6.3.1 Hazardous Substances

None

6.3.2 Petroleum Products

No petroleum products on site.

6.3.3 Underground Storage Tanks (USTs)

No readily apparent evidence of underground storage tanks (USTs) was identified on the subject property during the site reconnaissance.

6.3.4 Aboveground Storage Tanks (ASTs)

No ASTs on site.

6.3.5 Strong, Pungent, or Noxious Odors

Strong, pungent or noxious odors were not perceived on, at or in the subject property.

6.3.6 Standing Surface Water and Pools or Sumps Containing Liquids Likely to be Hazardous Substances or Petroleum Products

None observed.

6.3.7 Drums, Totes, and Intermediate Bulk Containers

None observed.

6.3.8 Hazardous Substance and Petroleum Product Containers Not in Connection With Identified Uses

None observed.

6.3.9 Unidentified Substance Containers

None observed.

6.3.10 PCB-Containing Items

PCB-containing items were not seen.

6.3.11 Stains or Corrosion on Floors, Walls, or Ceilings

No irregular stains or corrosion were observed on floor, walls or ceilings.

6.3.12 Drains and Sumps

No discharge features (floor drains, catch basins, oil/water separators, etc.) were observed on the subject property during the site reconnaissance.

6.3.13 Pits, Ponds, or Lagoons

Pits, ponds or lagoons were not observed on the subject property during the site reconnaissance.

6.3.14 Solid Waste

Unauthorized dumping was observed in four separate locations. See **Appendix B, Photographs** and see **Appendix A, Figure 6.**

6.3.15 Stained Soil or Pavement

Stained soil was observed in 4 locations of unauthorized dumps; see and see

6.3.16 Stressed Vegetation

Stressed vegetation was not observed.

6.3.17 Wells

Wells were not observed on the subject property.

6.3.18 Other

None.

7.0 RECORDS REVIEW

7.1 Standard Environmental Record Resources

AAES contracted with Environmental Data Resources, Inc (EDR) to research publicly available regulatory databases containing environmental information and report the results. The work was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) and ASTM Standard Practice for Environmental Site Assessments (E 1527-21). EDR's team of data analysts maintains relationships with government agencies, continually updating over 2,000 federal, state, tribal, local and proprietary sources. The update process meets and exceeds the requirements of ASTM E1527-21. The objective is to assess the likelihood of an impact to the property from migrating hazardous substances or petroleum products.

Over 130 data bases were inspected. EDR researched each database for sites located within the minimum standard search radius, as identified by ASTM standard ASTM E 1527-21. Details of sites located in the databases are included in the EDR report (**Appendix D, Regulatory Records**). The locations of the sites are plotted utilizing a geographic information system, which geocodes the site addresses.

Two reports are provided. *The EDR Radius Map(TM) Report with Geocheck(R)* and the *EDR* Summary Radius Map Report.

AAES concluded the review of the EDR reports on the official date of this Phase I Report.

The following Table presents only such listings that were indicated as potentials for contamination of the environment, and following the table are summaries of the information found in the relevant database listings and our opinion regarding the likelihood for the subject property to be impacted from the potential sources. Our opinion is based on the information found in the database listings as further researched through other historical and regulatory resources, and based on assumed groundwater flow direction.

The subject property is not listed in the databases.

Surrounding the subject property are 14 listings within a radius of 1/8th of a mile from the subject property, 2 listings within a 1/8th to 1/4th of a mile radius, 2 listings from 1/4th to 1/2 of a mile and none within 1/2 to 1 mile radius, for a total of 18 listings in the first mile around the subject property. Of these listings, one (1) was found to indicate recognized environmental condition for the subject property: The MCLB,BARSTOW B570; MARINE CORPS LOGISTICS BASE that is a CERCLA site on the National Priority List (NPL).

The MCLB,BARSTOW B570 site sits on an NPL groundwater plume with the source points at the Marine Corps Base that adjoins the western property line. There are 45 source and/or treatment sites at the Base. **Appendix A, Figure 5.**

The impacted media are soil, soil-vapor and groundwater. The contaminants of concerns (COCs) include PCE in significant levels.

Table 1 is part of and enclosed behind **Figure 5**. It identifies 5 sites at the Base that are within one mile from the western side of the subject property; the first on the list is 2660 feet west and there's air sparging and soil vapor extraction ongoing (ref. GeoTracker). The subsurface soils are alluvial fan deposit: unconsolidated, gravel, sand, silt and clay, a type of geology that provides easy path for migration of vapors.

The above conditions amount to a likely presence of PCE vapors in the subsurface soils at the subject property, migrating eastwardly into it from documented releases at the westerly adjoining NPL site.

ASTM E1527-21 defines migrate and migration as the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Using this definition, AAES considers the migration of hazardous substances or petroleum

7.1 Standard Environmental Record Resources (continued)

products, in the forms of solid, liquid and vapor, onto the subject property during the evaluation of each site listed on the radius report. With the above information in mind, AAES determines that there is a concern for migration of hazardous substances unto the subject property.

Map Findings Summary								
Database	Subject Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1	1	0	0	0	NR	1
SEMS		0.5	1	0	0	NR	NR	1
CORRACTS		1	1	0	0	0	NR	1
RCRA-LQG		0.25	1	0	NR	NR	NR	1
US ENG CONTROLS		0.5	1	0	0	NR	NR	1
US INST CONTROLS		0.5	1	0	0	NR	NR	1
DOD		1	1	0	0	0	NR	1
FUDS		1	0	1	0	0	NR	1
RAATS		0.001	1	NR	NR	NR	NR	1
ROD		1	1	0	0	0	NR	1
LUST		0.5	0	0	1	NR	NR	1
CORTESE		0.5	0	0	1	NR	NR	1
ENVIROSTOR		1	1	1	0	0	NR	2
CIWQS		0.001	1	NR	NR	NR	NR	1
HWP		1	1	0	0	0	NR	1
San Bern. Co. Permit		0.25	1	0	NR	NR	NR	1
CPS-SLIC		0.5	1	0	0	NR	NR	1

Adjoining and Nearby Properties	
Site Name:	MCLB,BARSTOW B570; MARINE CORPS LOGISTICS BASE
Databases:	ENVIROSTOR, HWP, RAATS, US INST CONTROLS, NPL, RCRA-LQG, ROD, SEMS, CORRACTS, US ENG CONTROLS
Address:	BOX 110570, BLDG. 196
Distance (Feet):	0
Direction:	North
Elevation:	
Comments:	IMPORTANT: This sire presents an REC for the subject property. NPL site. Substance: TRICHLOROETHYLENE (TCE). Pathway: GROUND WATER PATHWAY. The Barstow Marine Corps Logistics Base is in San Bernardino County, California. It is in the Mojave Desert and adjacent to the Mojave River. A portion of the base, the 1,568-acre Nebo Area, is approximately 1 mile east of the City of Barstow. It has been used for maintenance, repair, and rebuilding of supplies and equipment for the Marine Corps since 1942. Solvent wastes, including trichloroethylene TCE), were apparently generated in substantial quantities in the Nebo Area facility. Due to the lack of records, the quantities of solvents used, stored, and discharged on-site are unknown. The same activities were conducted at the 1,681-acre Yermo Area, 6 miles east of Nebo. Barstow Marine Corps Logistics Base is participating in the Installation Restoration Program IRP), established in 1978. Under this program, the Department of Defense seeks to identify, investigate, and clean up contamination from hazardous materials.

7.1 Standard Environmental Record Resources (continued)

Comments:	Monitoring wells at both Nebo and Yermo are contaminated with TCE, according to tests conducted in 1984-85 as part of IRP studies and by the U.S. Geological Survey. Public wells within 3 miles of hazardous substances at the base supply drinking water to an estimated 28,700 residents of the city of Barstow and outlying areas. The Marine Corps has completed an initial assessment/site inspection and is planning a remedial investigation/feasibility study to determine the type and extent of contamination and identify alternatives for remedial action at both the Nebo and Yermo areas. An activated carbon system for treating contaminated drinking water wells at Yermo is scheduled to be installed in July 1989. Status November 21, 1989: The activated carbon system is now operating. The land is federally-owned, The site is federally-owned, The site is federally-operated. Waste Code:F003 Waste Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES. Waste Code:F005 Waste Description: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES. Waste Code:U044 Waste Description: CHLOROFORM (OR) METHANE, TRICHLORO- Waste Code:U052 Waste Description: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL- Waste Code:U165 Waste Description: NAPHTHALENE Waste Code:U188 Waste Description: PHENOL Waste Code:U210 Waste Description: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE Waste Code:U220 Waste Description: BENZENE, METHYL- (OR) TOLUENE Waste Code:U239

7.1 Standard Environmental Record Resources (continued)

Comments:	Waste Description: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Site Name:	YERMO CALIFORNIA CLASSIFICATION YARD
Databases:	CIWQS
Address:	MARINE ROAD
Distance (Feet):	0
Direction:	East
Elevation:	Lower
Comments:	Insignificant data.

Site Name:	YERMO AREA
Databases:	DOD
Address:	
Distance (Feet):	32
Direction:	West
Elevation:	
Comments:	Insignificant data.

Site Name:	SPRINT-YERMO REGENERATOR CAYERA
Databases:	CERS, San Bern. Co. Permit
Address:	36992 YERMO RD
Distance (Feet):	102
Direction:	North
Elevation:	Lower
Comments:	Insignificant data.

Site Name:	YERMO RAIL YARD
Databases:	CPS-SLIC
Address:	YERMO RAIL YARD
Distance (Feet):	462
Direction:	East
Elevation:	Lower
Comments:	Insignificant data.

Site Name:	HOLDING AND RECONSIGNMENT POINT DEPOT
Databases:	FUDS
Address:	
Distance (Feet):	924
Direction:	ENE
Elevation:	Lower
Comments:	Insignificant data.

Site Name:	RECONSIGNMENT PT DEPOT
Databases:	ENVIROSTOR
Address:	
Distance (Feet):	948
Direction:	ENE
Elevation:	Lower
Comments:	Insignificant data.

7.1 Standard Environmental Record Resources (continued)

Site Name:	SHAW PROPERTY
Databases:	San Bern. Co. Permit, CORTESE, CERS, LUST
Address:	37613 YERMO ROAD
Distance (Feet):	2148
Direction:	ENE
Elevation:	Lower
Comments:	Leaking underground storage tank site. Case closed 2013. Affected media: soil and soil-vapor. Remediation by soil-vapor extraction. Chlorinated solvents not detected in the soil vapor Petroleum hydrocarbons presence in the soil vapor, insignificant. Overall, impact on the subject property is unlikely.

7.2 Additional Environmental Record Resources

Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System was reviewed for information pertaining to oil and gas exploration on or nearby the subject property, and none were found within a radius of one mile.

The user, provided a Phase I Environmental Site Assessment Report dated 12/5/2019, by *Encon Solutions Inc.,* of Los Angeles, California. The material findings of this report were:

- The subject property was undeveloped land. Site reconnaissance revealed no evidence of underground storage tanks, sumps, or other environmental concerns.
- The subject property had always been mostly undeveloped land. A residence existed on the northwest portion of the subject property between the 1950s and 1970s, and a separate residence existed on the northwest corner of the subject property from the mid-1990s through the mid-2010s. At the time of the 2019 report, the subject property was undeveloped land.
- The properties in the immediate vicinity had been residentially and industrially developed since the 1950s. A Marine Corps Logistics Base occupied the adjacent property to the west since the 1940s.
- The subject property was not listed in any Federal, State, or Local environmental databases.
- The adjacent property to the west is occupied by a Marine Corps Logistics Base was identified as a National Priorities List (NPL) site. The Base site covered 5,687 acres east of Barstow, California. According to 2018 annual groundwater monitoring report, the Property was not located within the groundwater contaminant plume associated with the Base. According to the Environmental Protection Agency (EPA), there were no unacceptable human exposure pathways for contaminants, and the site was under control for human exposure. Furthermore, the Responsible Parties had been identified and the subject property had not been identified as a contributor to the contamination. Therefore, the Barstow Logistics Base NPL site was not assessed to represent a significant environmental concern for the subject property.
- Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HRECs), and/or Controlled Recognized Environmental Conditions (CRECs) were not identified in connection with the subject property.
- ENCON recommended no further investigation based on the data at the time of their report.

The ENOCON's Phase I report is entered in **Appendix H, Additional Documentation.**

No additional environmental record resources have been used in this assessment.

7.3 Physical Setting

General site settings including topography, surface water bodies, geology and hydrology are detailed in the following sections.

7.3.1 Geography, Topography and Physiography

The subject property is located in Yermo, California, an unincorporated community in the Mojave Desert in San Bernardino County, 13 miles east of Barstow on Interstate 15, just south of the Calico Mountains. Population was an estimated 1,750 in 2009.

Appendix A, Figures
Appendix B, Photographs

Founded in 1902 and originally named Otis, Yermo was situated at a division point of the Union Pacific Railroad line. It later developed around serving motorists traveling the Arrowhead Trail (later U.S. Route 91), which ran through the community. Interstate Highway 15 runs east-west north of Yermo.

Today, Yermo is governed by an elected five-member board of directors comprising the Community Services District authorized by the County of San Bernardino.

Yermo hosts the 1,859-acre storage and industrial annex of the Marine Corps Logistics Base Barstow.

Yermo has a semi-arid climate, with long, very hot summers, sunny winters with cool nights and dry conditions year round.

Ref. Wikipedia

Elevation at the subject site is 1,951 feet above mean sea level. The land is generally flat in all directions.

Ref. EDR Radius Map Report, GeoCheck Section, Appendix D

7.3.2 Surface Water Bodies

There are no major surface water bodies within a radius of a mile from the subject property.

7.3.3 Geology, Hydrology and Hydrogeology

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

GEOTRACKER RESEARCH
https://geotracker.waterboards.ca.gov/

GeoTracker is an Internet-accessible database system used by the California State water Resources Control Board, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. This system consists of a relational database, on-line compliance reporting features, a geographical information system (GIS) interface and other features that are utilized by the State Board, regional boards, local agencies, regulated industry and the public to input, manage, or access compliance and regulatory tracking data.

7.3.3 Geology, Hydrology and Hydrogeology (continued)

The following data is excerpted from a technical report on the property located at 37613 Yermo Road in Yermo, California, entered on GeoTracker as SHAW PROPERTY (T0607122555)
https://geotracker.waterboards.ca.gov/profile_report?global_id=T0607122555

The *SHAW PROPERTY,* is located at the southwest corner of Yermo Road and Jellico Street, about 2,000 feet east-northeast from the subject property, and it is safe to assume that both locations share similar features of geology, hydrology and hydrogeology.

The report in view is the *Workplan for Subsurface Site Assessment* of March 9, 2007, prepared by *Environ Strategy Consultants, Inc.,* of Irvine, California;
https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/6504942178/T0607122555.PDF

Thus we conclude the following features for the subject property:

The subject property is located within the central portion of the Mojave Desert Geomorphic Province. Lithology in the vicinity of the site consists of Quaternary Alluvium and well dissected alluvial fans, and Miocene dacitic intrusives.

The subject property is located within the Lower Mojave River Valley Groundwater Basin which is drained by the Mojave River. Groundwater in the region reportedly occurs in the older and younger alluvial fan deposits and river channel and floodplain deposits. Alluvial fan deposits are unconsolidated to partially consolidated and up to 2,000 feet thick. River channel and alluvial flood plain deposits are generally restricted to within 1 mile of the Mojave River channel and average 200 feet in thickness. Regional groundwater flow is directed toward the east-northeast along the general trend of the Mojave River.

Based on experience obtained from conducting similar site assessment activities at the nearby United States Marine Corps Logistics Base - Yermo, groundwater is estimated to be present at approximately 150 to 200 feet below ground surface (bgs).

7.4 Historical Use

A review of historical data derived from standard historical resources is provided in this section. The objective of consulting historical sources is to develop a history of the previous uses of the property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property. During our historical review, special attention was paid to the subject property. Data relating to the adjoining and immediately surrounding properties (within 100 feet of the boundary of the subject property) and the surrounding area were reviewed to the extent that it was available in the course of researching the property itself.

7.4.1 Historical Summary

According to AAES's interpretation of the available historical records, the history of the property and its surroundings can be summarized as follows:

SUBJECT PROPERTY

Information on the subject property is scarce. By all indications, for its most part of the land during most years of the research, 1952 to present day, the subject property has been a vacant, undeveloped, open, desert land. Fuzzy aerial photography seems to indicate a residence-like development occupying about 5 percent of the land from before 1952 to before 1970, a finding that AAES considers insignificant for the objectives of this report

7.4.1 Historical Summary (continued)

Title is currently held by *S&M Sunland, LLC, and Graeme G. Carr, LivingTrust. It was* received on 12/17/2019 from *George Sue Manufacturing Company*; and AAES found no evidence to manufacturing operations of any kind ever present at the subject property.

SURROUNDING AREAS

By all indications, during all years of the research, 1952 to present day, there is the Yermo Marine Base contiguous with the western subject property line and the railroad tracks and yard of Union Pacific contiguous with the southern subject property line. In a period of time that includes the years 1956 to 1983, topographic maps depict the subject property as being within the boundaries of the Base.

During this period of 1952 to present day, there is sparse residential/commercial developments in the north and northeast.

7.4.2 City Directories

AAES contracted with Environmental Data Resources, Inc.'s (EDR) to research the available historical and current city directories based on the site addresses. The complete EDR-City Directory Image Report is included in **Appendix C, Historical Research.**

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5-year intervals.

Directories were found available for the years spanning 1976 through 2017.

All info was concerning addresses along Yermo Road. Information on cross streets was not found.

In summary:

The subject property appears just one time in the directories in 1992, listed under the name of Peggy L Shultz.

All other information in the directories concerning the 3700 and 3800 blocks is of residential character except for one that indicates a beauty salon.

7.4.3 Aerial Photos

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

See **APPENDIX C, Historical Research**.

The findings are tabulated below. In summary:

Throughout the aerial research period, 1952 to present day, except for a small, fuzzy, residence-like development in the western part of the subject property occupying about 5% of gross area, a development that disappeared by 1970, the subject property has been a vacant, undeveloped desert land.

The surrounding areas, throughout this aerially investigative period included some very limited, residential/commercial developments in the north and northeast, a railroad maintenance yard in the south and southeast, and the marines base in the west.

7.4.3 Aerial Photos (continued)

Aerial Photos		
Date(s)	Property Comments	Surrounding Area Comments
1952	Low resolution photo. There seems to be some development in a small area in the upper western part of the subject property, taking about 5% of the gross area; the pattern seems residential.	Scarce, sporadic developments in the north and northeast. Union Pacific RR yard in the south. Vacant in the west.
1959	No significant change	No significant change
1964	No significant change	Residences developing along Frontier; otherwise no significant change
1970	The development in the upper western part of the subject property have disappeared. Entire property is now vacant land.	No significant change
1975	The upper 40% of the aerial is obscured. The unobscured part f the subject property is vacant land	The upper 40% of the aerial is obscured. Otherwise, no significant changes.
1983	No significant change since the aerial of 1970	No significant change since the aerial of 1970
1995	No significant change	No significant change
2005	No significant change	No significant change, except for a view of a small section of an airfield track contiguous with the western property line, and there is a development contiguous with and north of the eastern "appendix" of the subject property.
2009	No significant change	No significant change
2012	No significant change	No significant change
2016	No significant change	No significant change

7.4.4 Sanborn/Historical Maps

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Ami Adini Environmental Services Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn. The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

See **APPENDIX C, Historical Research**.

The report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

7.4.5 Historical Topographic Maps

EDR Topographic Map Library has been searched by EDR and maps covering the target property location identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map

7.4.5 Historical Topographic Maps (continued)

Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

See **APPENDIX C, Historical Research.**

In summary:

The historic topographic maps in this case, seven (7) in number, ranging 1953 to 2018, are of limited value as to details of development of the subject property and the surrounding area. They provide a macroscopic view of the areas of interest in terms of their development from undeveloped open land into sparse communities. Of significance to this assessment work is the demonstrated presence of the Yermo Marine Base contiguously with the western subject property line and the railroad tracks and yard contiguous with the southern subject property line throughout this investigative period. The 1956, 1970 and 1983 maps depict the subject property as being inside the very eastern, appendix-like area of the Base. Starting with the 2015 map the subject property is depicted as being cut off from the base.

7.4.6 Previous Environmental Reports

Other than regulatory records indicated in Sections 7.1 and 7.2 of this Report, AAES has not located environmental reports that belong with the history of the subject property to the time of this writing.

7.4.7 Building Department Records

AAES reviewed the EDR Building Permits Report for information on building permits for the subject property and adjoining properties.

EDR indicated Data Gap in the sense that the complete collection of Building Permit data available to EDR has been searched, and as of 10/06/22, EDR did not have access to building permits in the city where your target property was located (Yermo, CA).

The EDR Building Permits Report is in **Appendix C, Historical Records.**

7.4.8 Title Records

Based on the initial site information provided and scope of work requested by the User, a title records search and review were not included with this Phase I.

AAES contracted with EDR to research environmental liens on the site. In that research, EDR found that the current title was vested in

S&M Sunland, LLC, as to an undivided 2/3 interest and Graeme G. Carr Trustee of The Graeme G. Carr, LivingTrust dated 9-26-17, as to an undivided 1/3 interest.

The Title was received on 12/17/2019 from *George Sue Manufacturing Company*.

The EDR report is provided in **Appendix C, Historical Records**

7.4.9 Other Historical Records

No other historical records were researched.

7.5 Environmental Liens and Activity/Use Limitations

AAES contracted with EDR to research for Environmental Liens and Activity and Use Limitations (AULs) on the site.

A network of professional, trained researchers, following established procedures, used client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

The search did not identify any environmental liens or AULs connected with the subject site.

The EDR report is provided in **Appendix C, Historical Research**.

7.6 Vapor Encroachment Evaluation

For the purpose of Standard Practice E-1527-21, ASTM defines *migrate* and *migration* as the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.

Using the ASTM definition of migration, AAES considered the migration of hazardous substances or petroleum products in any form, solid, liquid, or vapor onto the subject property during the evaluation of each site listed on the radius report. **(Appendix D, Regulatory Reports)**

Additionally, with the ASTM definition of migration, AAES considered the migration of hazardous substances or petroleum products in any form, solid, liquid, or vapor onto the subject property during the evaluation of each site listed in the city directories or indicated on Sanborn Maps, Topo Maps and Aerial Photos. **(Appendix C, Historical Research)**

Using the above resources, AAES has determined that the subject property sits on an NPL groundwater plume with source points at the Marine Corps Base adjoining the western property line.

Appendix A, Figure 5 with its attached Table depict the situation. There are 45 source and/or corrective action sites at the Base.

The impacted media are soil, soil-vapor and groundwater. The contaminants of concerns (COCs) include PCE in significant levels.

The Table that is attached to **Figure 5** identifies 5 sites at the Base that are within one mile from the western line of the subject property; the first on the list is 2660 feet west and there's active air sparging and soil vapor extraction.

PCE is highly volatile, the concern is of migration of PCE vapors into the subject property through the subsurface soil matrix. The subsurface soils are alluvial fan deposit: unconsolidated, gravel, sand, silt and clay. This geology is conducive to migration of vapors.

AAES considers this situation a likely presence of PCE vapors at the subject property.

8.0 INTERVIEWS

The objective of interviews is to obtain information indicating recognized environmental conditions in connection with the property. The content of questions attempt to obtain information about uses and conditions indicating the likelihood of identifying recognized environmental conditions in connection with the property. Questions may be asked in person, by telephone, or in writing.

AAES interviewed the user and the property owner by written questionnaires:

User:

- ENVIRONMENTAL CHECKLIST asking for 23 classes of documents
- USER QUESTINNAIRE, a list of 26 questions, patterned after *Appendix X3 USER QUESIONNAIRE* in ASTM Standard Practice E1527-21 and enhanced by AAES

Owner:

- ENVIRONMENTAL CHECKLIST asking for 23 classes of documents
- SITE ASSESSMENT QUESTIONNAIR, 56 questions patterned after ASTM Standard Practice E1527-21 in combination with the *Transaction Screen Questionnaire* of ASTM Standard Practice E1528-14, and enhanced by AAES

The responses are filed in **Appendix H, Additional Documentation**

INFORMATION PROVIDED BY USER

See Section 4.0 and its subsections 4.1 to 4.5

INFORMATION PROVIDED BY OWNER/SELLER

See Section 4.0 and its subsections 4.1 to 4.5

9.0 FINDINGS AND OPINIONS

This section identifies AAES's findings and expresses AAES's opinions relative to features, activities, uses, and conditions that, in AAES's judgement, may indicate the presence or likely presence of hazardous substances or petroleum products in, on or at the subject property due to a release or likely release to the environment, or conditions that pose a material threat of a future release to the environment. Such conditions are termed *Recognized Environmental Conditions (RECs).* The complete definition of *REC* is in Section 3.1 (Purpose) of this report.

The term *de minimis condition* means a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

AAES has not encountered significant data gaps during this Phase I ESA.

In the case of the subject property, there is a situation of massive releases of contaminants into the environment at the westerly adjoining MCLB, Barstow B570, Marine Corps Logistic Base that is a CERCLA site on the National Priority List (NPL). The releases have been of such magnitude that this site has been assigned a CERCLA status of NPL. The subject property sits on the edge of a contaminated groundwater plume with source points at the marine base. There are 45 source and/or treatment sites at the base. The impacted media are soil, soil-vapor and groundwater. The contaminants of concerns (COCs) include PCE in significant levels. See **Appendix A, Figure 5** and see **Table 1** enclosed behind that Figure. Five (5) of the source/treatment places are in less than a mile from the subject property westerly line, the closest one 2,660 feet west with active air sparging and soil vapor extraction. The subsurface soils are alluvial fan deposit: unconsolidated, gravel, sand, silt and clay, a type of geology that is conducive to migration of vapors.

The Marine base has contaminated soil, soil-vapor and groundwater. The plumes of contamination in the soil are limited to the proximities of their origins and present no concerns to the subject property. The plumes of contamination in the groundwater have spread far and wide, groundwater flow is to the northeast, that is, from the source points in the direction of the subject property; however, it seems that the contaminated groundwater barely reached the western line of the subject property and even if it has invaded: with the groundwater at 120-200 feet below ground, that plume is unlikely to present a threat to occupants at the subject property and unlikely to ever be a cause of enforcement actions against owners of, or occupants at subject property; thus it becomes a *de minimis* condition for the subject property.

In the eyes of AAES, a concern, however, lies in the prospects of having soil at the subject property laden with vapors of PCE migrating from sources at the marine base. AAES ran a cursory research of all reports uploaded to GeoTracker, and AAES has not found a single report that dealt with the aspect of migration of PCE in the soil vapor. The concern is of PCE vapors from the base invading the subject property by advection and diffusion in the soil matrix and/or evaporation from the contaminated groundwater plume underneath. It would take a great effort of studying scores of reports of the past 26 years to arrive at an evaluation of such prospects, evaluation that will still remain in the theoretical sphere of thought. Probably the cheapest, most affirmative route would be to take some soil-vapor samples at the subject property.

For now, we have this situation of likely presence of hazardous soil vapors at the subject property, coming from releases at the adjoining marine base. This would constitute an *REC* per Standard Practice E1527-21; but then, the user of this report has indicated their objectives for the site to be used as a laydown area where structures would not generally be constructed. Such future eliminates the specter of toxic vapor intrusion to occupied spaces, thus no threat to human health; a situation that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies; thus, a *de minimis* condition.

The resulting opinion of AAES is that there is a possibility of intrusion of hazardous substances into the soil vapor at the subject property from the adjoining NPL site, and this condition can be declared as either *REC* or *de minimis* relative the future that is planned by the user of this report for the subject property.

9.0 FINDINGS AND OPINIONS (continued)

Another condition in, on and four separate areas at the subject property is the presence of unauthorized, illegal dumps of imported dirt, dilapidated household appliances and debris. This condition is photographed in **Appendix B**, and a map of the impacted locations is in **Figure 6** of **Appendix A.** AAES estimates each dump on the order of 10-30 truckloads. At one point or another, as a pre-condition to disturbance or disposal of the dumps or when the property is developed, these piles should be tested for hazardous substances and handled accordingly. AAES assigns a *de minimis* condition to these dumps until such time that they are disturbed; at which time they will rise to the level of *RECs.*

10.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E1527-21 of 37265 Yermo Road, Yermo, California, the subject property. Any exceptions to, or deletions from, this practice are described in Section 3.5 of this report. This assessment has revealed the following conditions:

Condition 1: The possibility of migration of PCE contaminated soil vapor into the subject property. AAES considers this condition *de minims* as long as the property stays undeveloped with structures planned for human occupation.

Condition 2: The presence of unauthorized, illegal dumps in four areas on the subject property. AAES considers this condition *de minims* and advises testing the piles for hazardous substances as a pre-condition for disturbance or disposal.

11.0 RECOMMENDATIONS

AAES determined the unique existence of *Recognized Environmental Conditions (RECs)* and *de minimis* conditions in dualities at the subject property relative to likely presence of hazardous vapors in the soil and relative to presence of potentially contaminated illegal dumps. A Phase II Environmental Site Assessment can reduce these uncertainties.

12.0 REFERENCES

1. American Society for Testing and Materials (ASTM), Designation E 1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, November 1, 2021.

2. California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), DOGGR Online Mapping System, http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx.

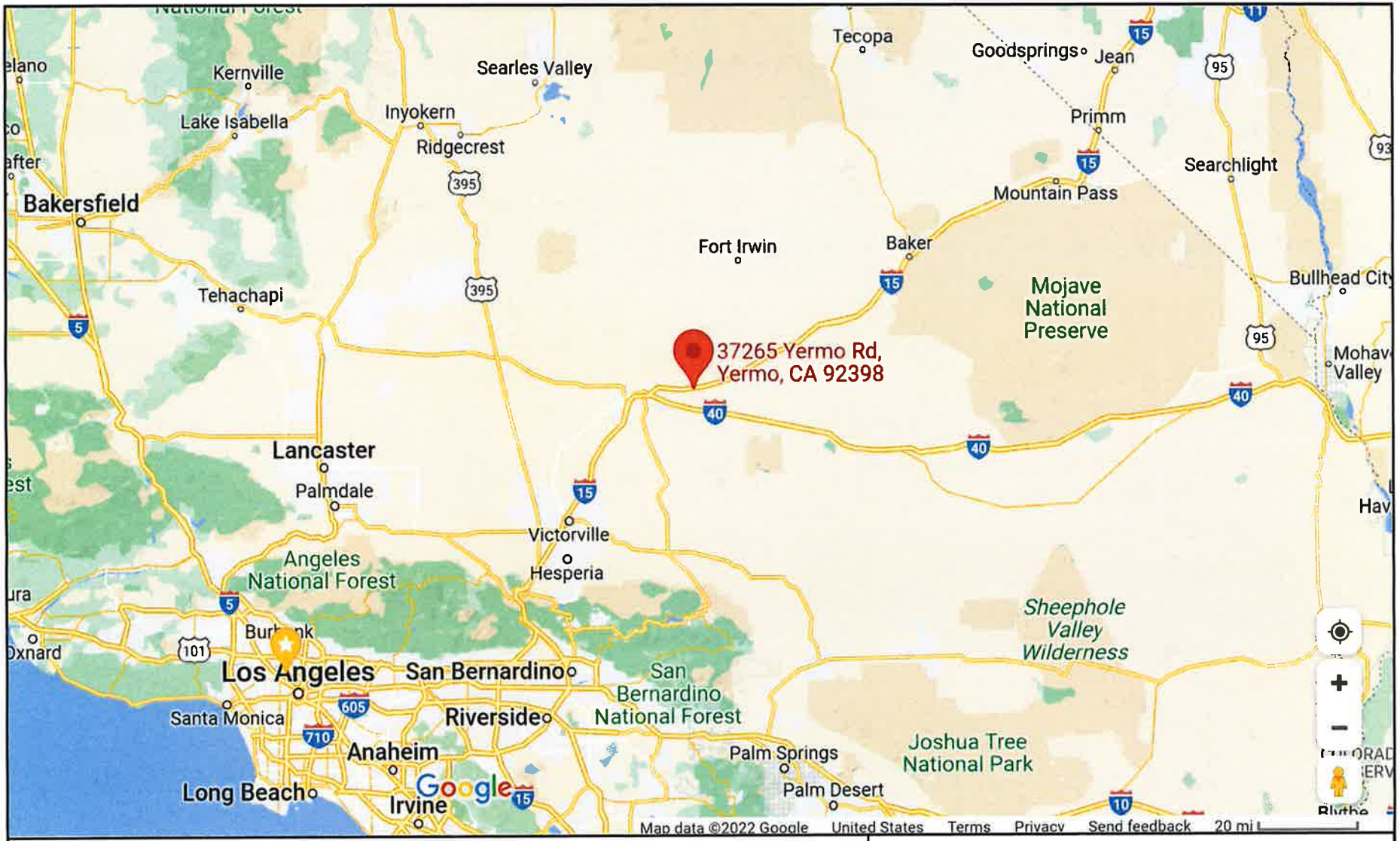
3. California State Water Resources Control Board, GeoTracker, http://geotracker.waterboards.ca.gov/, 2022.

4. California Department of Toxic Substances Control, Envirostor, https://www.envirostor.dtsc.ca.gov/public/, 2022

5. South Coast Air Quality Management District, https://xappprod.aqmd.gov/find.

Appendix A:

Figures



LEGEND

Source: Google Maps, 2022

N

Figure 1: Site Location Map

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini Environmental Services, Inc.



Source: Google Maps 2022

N

Figure 2: Aerial Site Vicinity Map

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini Environmental Services, Inc.



Source: Google Maps, 2022

Property Boundary

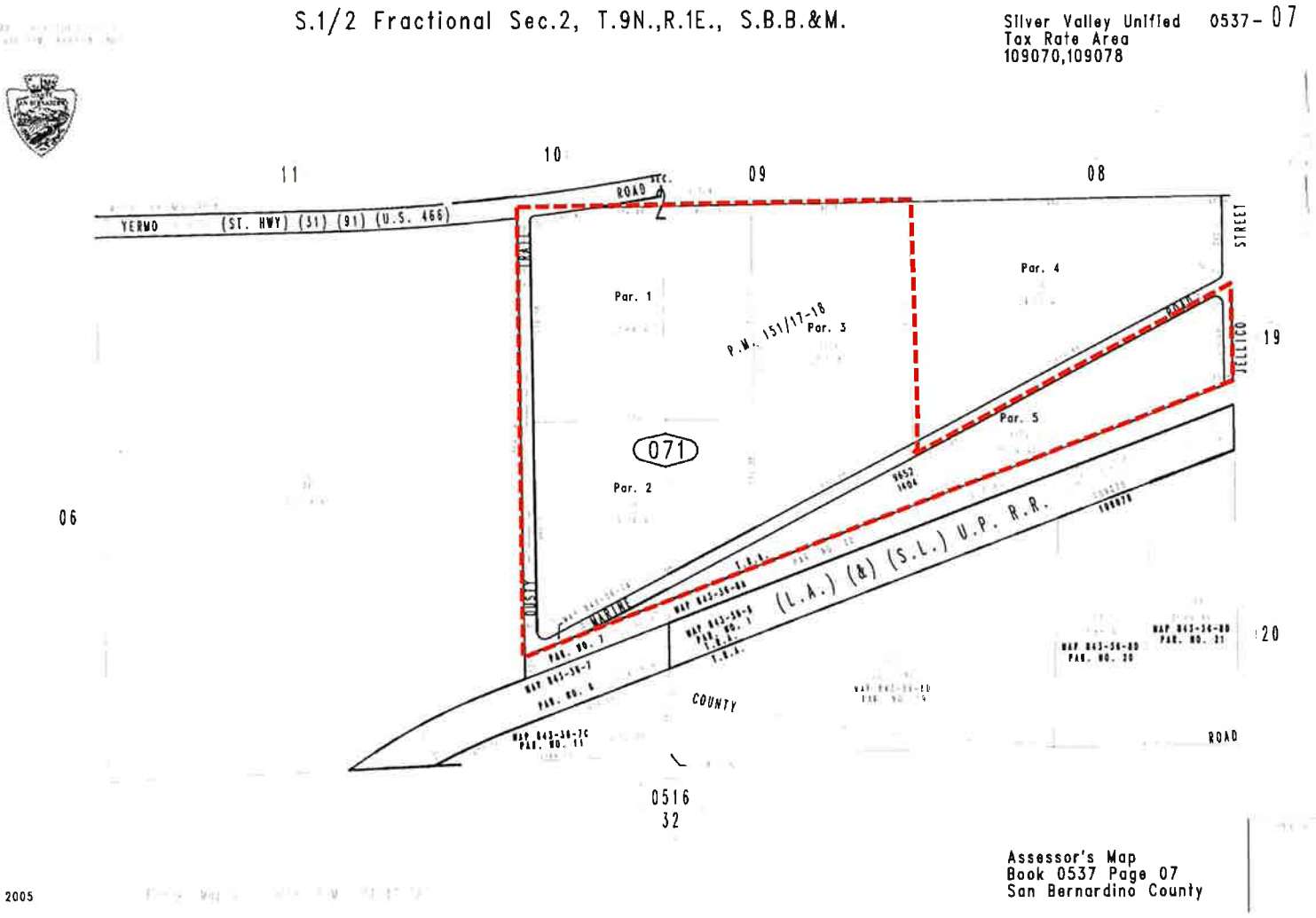
N

Figure 3: Aerial Site Map

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini
Environmental Services, Inc.



Source: San Bernardino County Assessor's Map, 2022

Property Boundary

N

APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

Figure 4: LA Assessor's Map

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini
Environmental Services, Inc.



Source: GeoTracker, October 2022

Property Boundary

N

45 sites in the depicted NPL plume; 5 sites that are in less than 1 mile from the western property line of the subject property line are tabulated in the next page. Detailed information is on GeoTracker.

Figure 5: NPL Plume

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini Environmental Services, Inc.

Ami Adini
Environmental Services, Inc.

FIGURE 5 — TABLE 1

NPL SITES WITHIN 1 MILE FROM WESTERN SUBJECT PROPERTY LINE

GeoTracker ID	Name	Distance (ft)	Direction	COCs	Status	Closure Date	Impacted Medium	DTW (ft bgs)	Corrective Action
OU-1 -CAOC 37-A	YERMO NORTH GROUNDWATER	2660	SW	PCE, TCE. 1,1- DCE	Open since 1996		Soil, GW	190	Soil Vapor Extraction (SVE); Air Sparging (AS); GW Extraction
OU-1 -CAOC 37-C	YERMO SOUTH GROUNDWATER	5,260	SW	PCE, TCE. 1,1- DCE	Open since 2010		GW	190	GW Monitoring
OU-1 -CAOC 37-B	YERMO SOUTH GROUNDWATER	3100	WSW	PCE, TCE. 1,1- DCE	Open since 2010		GW	190	GW Monitoring
OU-5 (SOIL) - CAOC 35	YERMO CLASS III LANDFILL ZONE 1	3800	W	PCE. TCE	Open since 1998		GW	180	GW Monitoring. Site is capped
T530B (T0607100815)	USMC LB MCLB BARSTOW	4540	SW	TRPH, PCE	Open since 1992		Soil, Soil-vapor		

Geology: Alluvial fan deposit, unconsolidated, gravel, sand, silt and clay.

Hydrogeology: Groundwater flow is generally to the east in the northern part of the base. Hydraulic gradient 0.0010 feet per foot (ft/ft) .

Source Materials: GeoTracker files on the above tabulated sites.

Source: GeoTracker, October 2022



Figure 5 – TABLE 1: NPL Plume

37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini
Environmental Services, Inc.



Source: GeoTracker, October 2022

Property Boundary

N

Unauthorized Dumping
See Photographs

Figure 6 – Unauthorized Dump Areas
(See Photographic Log)
37265 Yermo Road, Yermo, CA 92398

DRAWN BY:	DATE:	PROJECT:
AA	October 2022	WorldEnergy_P09

Ami Adini
Environmental Services, Inc.

Ami Adini
Environmental Services, Inc.

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Final

37265 Yermo Road, Yermo, California 92398
Assessor Parcel Numbers (APNs) 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

Prepared for
World Energy, LLC
November 22, 2022



Project No. WorldEnergy_P09

1837 N Berendo St • Los Angeles, Ca 90027
323.899.5001 • www.amiadini.com • amia@amiadini.com

Ami Adini
Environmental Services, Inc.

November 22, 2022
Project No. WorldEnergy_P03

Anuya Dickinson
Environmental Compliance Engineer
World Energy, LLC
14700 Downey Avenue
Paramount, CA 90723
P. 562.748.4706 | M. 562-577-1411
E. adickinson@worldenergy.net

Final

Re: Phase II Environmental Site Assessment Report
37265 Yermo Rd, Yermo, CA 92398
APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

Dear Ds. Dickinson:

Ami Adini Environmental Services, Inc. (AAES), has prepared this *Phase II Environmental Site Assessment Report (ESA)* for the property located at 37265 Yermo Rd, Yermo, CA 92398 (the subject property). The assessment was based on findings of a Phase I ESA for the subject property as described below.

Environmental Background

The subject property is located in Yermo, California, 13 miles east of Barstow on Interstate 15. It is an irregular, 6-side-polygon made of combination four lots totaling 79.6 acres of vacant land.

Figures 1 to 4 at the back of this narrative provide information on the site features and its surroundings.

On November 2, 2022, AAES presented a Phase I Environmental Site Assessment Report (Phase I ESA Report) on the subject property.

One finding of the Report was the presence of unauthorized, illegal dumps of imported dirt, dilapidated household appliances and debris in four separate areas on the subject property. This condition is photographed in **Attachment A, Photographs**, and a map of the impacted locations is in **Figure 5**. AAES estimated each dump on the order of 10-30 truckloads, and AAES indicated that, prior to disturbing these piles, they should be tested for hazardous substances and handled accordingly.

Objectives of the Current Investigation

The objectives were to identify levels of toxicity in the dirt substances that made the piles.

The target analytes included:

- Total Petroleum Hydrocarbons Carbon Range (EPA 8015B)
- pH (EPA 9045C)
- Volatile Organic Compounds (VOCs) (EPA 8260B)
- California CAM17 Metals TTLC (EPA 6010B)
- California CAM17 Metals STLC for Lead (Pb) (EPA 6010B)
- TCLP Metals Analysis for Lead (Pb) per 40 CFR 261.24 (EPA6010B)
- Aquatic Toxicity (California Fish & Game, Fat head Minnows)

Summary of Activities

On November 4, 2022, AAES sampled the four areas of concern.

In each area, AAES collected composite samples in two locations, going down one foot; thus, two (2) samples per location.

Ami Adini, principal environmental professional with AAES did the sampling. The method was:

1. In each area, through observations of discoloration, odor, and dumped objects, select two locations suspect of containing hazardous substances in the dirt.

2. Using a shovel and spade, in each location dig down one foot, mix the dug-out material and take a sample of the mix into a ziplocked nylon bag.

3. Tag the bag with a sticker identifying the sample by number, date and time of collection.

Thus, a total of eight (8) samples were collected.

Sample Numbering System:
- SS = Surface Sample
- A1 = Area 1
- 01 = Sample #1

Thus: SS-A1-01 = Surface Sample #1 in Area #1

See **Figure 5, Unauthorized Dump Sampling Map,** for orientation on sampling locations.

See **Figures, 6, 7, 8 and 9**, for aerial close-up illustrations of the unauthorized dump areas with indications of approximate dimensions and areas.

Disclaimer: The illustrated areas of illegal dumps are gross estimations through visual eye-level perceptions in foot-walking the areas. There could be more hidden under the surface than the eye saw; and there could be blank areas within the grossly estimated area.

See **Attachment A, Photographs, Surface Soil Sampling,** for pictorial recording of the sampling process.

The sampling operation took three hours.

The samples were delivered in two hours to Enviro-Chem, Inc. Laboratories in Pomona, California, using Chain of Custody procedures.

Analytical Test Results

Total Petroleum Hydrocarbons Carbon Range (EPA 8015B)

mg/kg = milligrams of analyte per kilogram of tested material

TPH was detected in one sample:

SS-A1-02:
C10-C28 RANGE: 184 mg/kg
C28-C35 RANGE: 1100 mg/kg

Volatile Organic Compounds (VOCs) (EPA 8260B)

None detected in all samples.

California CAM17 Metals TTLC/STLC (EPA 6010B)

mg/L = milligrams of analyte per liter of leachate

mg/kg = milligrams of analyte per kilogram of tested material

None of the metals exceeded its Total Threshold Limit concentration (TTLC).

Lead (Pb) exceeded its Soluble Threshold Limit Concentration (STLC) of 5 mg/L in two locations:

SS-A1-01: 15.5 mg/L > 5 mg/L

SS-A3-01: 6.46 mg/L > 5 mg/L

Regulatory Screening Level (RSL) for lead (Pb) in commercial industrial soil is 320 mg/kg (noncancer endpoint).

Ref. CALIFORNIA DEPARTMENT OF TOXIC SUBTANCES CONTROL (DTSC), HUMAN AND ECOLOGICAL RISK OFFICE (HERO), HUMAN HEALTH RISK ASSESSMENT (HHRA) NOTE NUMBER 3, DTSC-modified Screening Levels (DTSC-SLs), June 2020, Table 1: Screening Levels for Soil Analytes.

Lead (Pb) was below its RSL in all samples.

TCLP Metals Analysis for Lead (Pb) per 40 CFR 261.24 (EPA6010B)

Lead (Pb) did not exceed its TCLP limit of 5 mg/L

SS-A1-01: 3.08 mg/L < 5 mg/L

SS-A3-01: 1.42 mg/L < 5mg/L

Arsenic

Arsenic did not exceed its hazardous waste threshold criteria in any of the samples; however, it tested high above its regulatory screening levels (RSLs) and high above its background range at the property in two locations.

The source material reference for RSLs is: CALIFORNIA DEPARTMENT OF TOXIC SUBTANCES CONTROL (DTSC), HUMAN AND ECOLOGICAL RISK OFFICE (HERO), HUMAN HEALTH RISK ASSESSMENT

(HHRA) NOTE NUMBER 3, DTSC-modified Screening Levels (DTSC-SLs), June 2020, Table 1: Screening Levels for Soil Analytes.

- The RSL for arsenic in commercial/industrial soil is 0.36 mg/kg for cancer risk.
- The Background Range for arsenic as evidenced in 5 of the 8 samples at the subject property was 2.09 to 3.17 mg/kg averaging 2.61 mg/kg

Arsenic exceeded its RSLs in the following three locations:

- SS-A1-01: 44.1 mg/kg >> 0.36 mg/kg
- SS-A2-02: 36.3 mg/kg >> 0.36 mg/kg
- SS-A3-02: 5.49 mg/kg > 0.36 mg/kg

Arsenic exceeded its Background Range Average in these three locations:

- SS-A1-01: 44.1 mg/kg >> 2.61 mg/kg
- SS-A2-02: 36.3 mg/kg >> 2.61 mg/kg
- SS-A3-02: 5.49 mg/kg > 2.61 mg/kg

Aquatic Toxicity

By California regulations, a waste is aquatically toxic if it produces an LC-50 less than 500 mg/L

All samples passed at LC-50 > 750 mg/L

Findings

See **Figure 5, Unauthorized Dump Sampling Map.**

See **Figures 6, 7. 8 & 9** for gross estimations of the illegal dump areas.

Lead exceeded its hazardous waste criterion in two locations: Dump Area A1 and Dump Area A3.

Arsenic exceeded its regulatory screening and background levels in three locations: Dump Area A1, Dump Area A2 and Dump Area A3

In Dump Areas A1 and A2, arsenic levels rose significantly high above regulatory screening levels and background levels.

The concentration levels of petroleum compounds in Dump Area A1 are of no concern.

Analytical test results did not indicate any other concerns relative to the objectives of this work.

Recommendations

1. Collect discarded, dilapidated objects and debris and take to a proper disposal/recycling place.
2. In Dump Areas A1 and A3, scrape the upper one foot of dirt and heap it into stockpiles.
3. Then test the exposed surface down one foot for lead (Pb) and arsenic (As). Repeat Steps 2 and 3 as needed.
4. Take composite samples from the stockpiles, profile the piles in accordance with the results and take the material to a proper landfill.
5. In Dump Area A2, remove the hyper-arsenic-laden soil and take to a landfill.

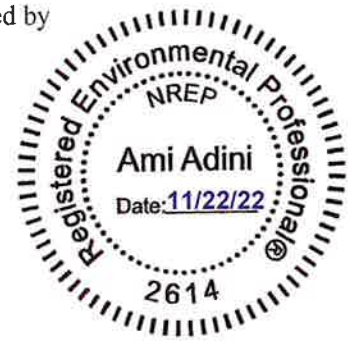
Thank you for affording us the opportunity to service your interests.

If you have any questions, please contact us at (323) 899-5001 or by email amia@amidini.com.

Sincerely,

AMI ADINI ENVIRONMENTAL SERVICES, INC.

This Phase II Environmental Site Assessment Report has been prepared by



Ami Adini
Environmental Professional (40 CFR § 312.10)
NREP Registered Environmental Professional No. 2614
Calif. RMO, A/B/HAZ/ASB, General Eng./Haz. Substance Removal Contractor No. 1009513
Former California Registered Environmental Assessor Level II #20244
B. Sc. Mechanical Engineering

Enclosures:

Figure 1 – Site Location Map
Figure 2 – Aerial Site Vicinity Map
Figure 3 – Aerial Site Map
Figure 4 – San Bernardino County Assessor's Map
Figure 5 – Unauthorized Dump Sampling Map
Figure 6 – Unauthorized Dump Area 1
Figure 7 – Unauthorized Dump Area 2
Figure 8 – Unauthorized Dump Area 3
Figure 9 – Unauthorized Dump Area 4

Attachment A – Photographs, Surface Soil Sampling
Attachment B – Laboratory Analytical Reports

ATTACHMENT A

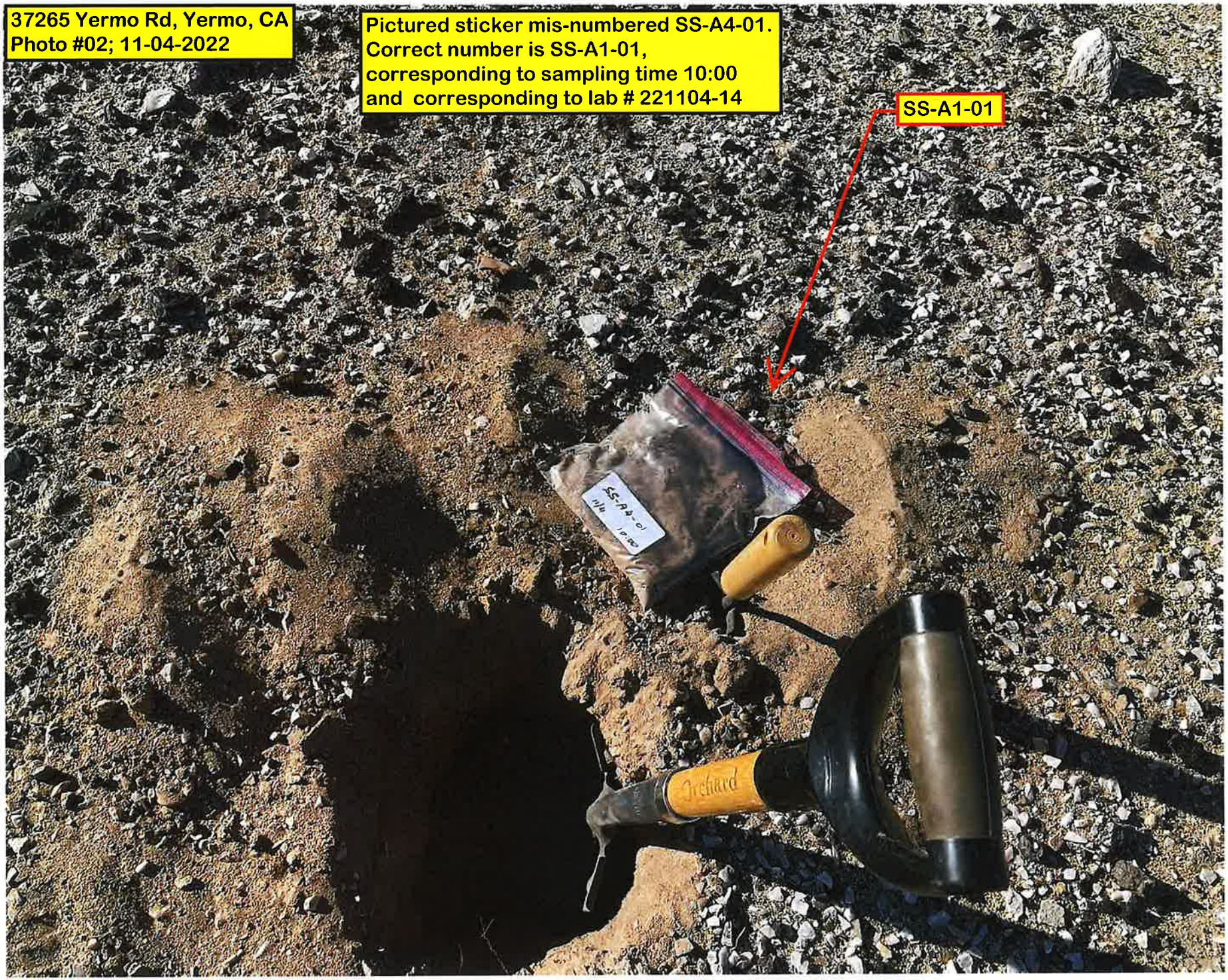
Photographs, Surface Soil Sampling

Ami Adini
Environmental Services, Inc.

37265 Yermo Rd, Yermo, CA 92398
Photography Key Map, November 4, 2022




37265 Yermo Rd, Yermo, CA
Photo #01; 11-04-2022
SS-A1-01

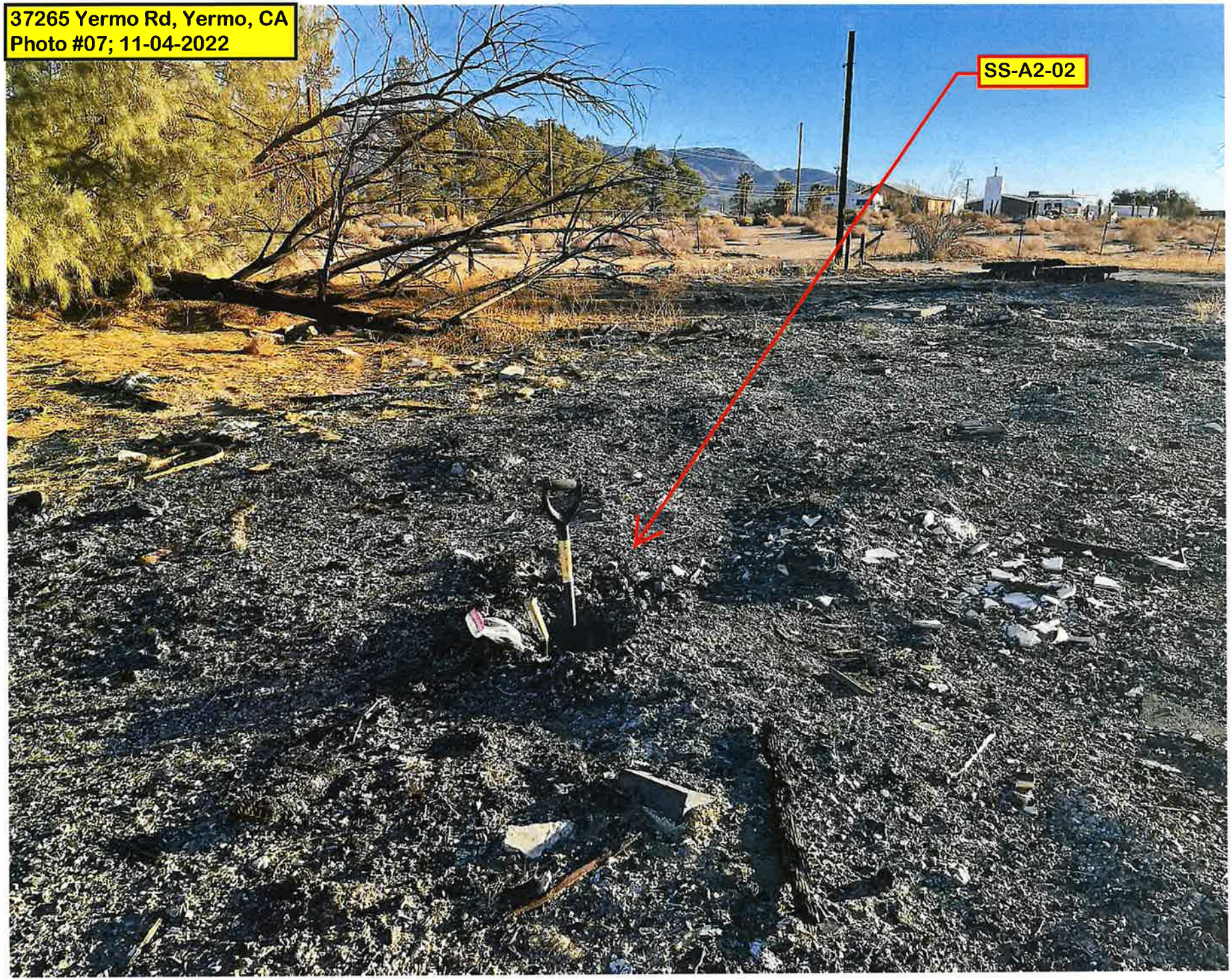

37265 Yermo Rd, Yermo, CA
Photo #02; 11-04-2022
Pictured sticker mis-numbered SS-A4-01.
Correct number is SS-A1-01,
corresponding to sampling time 10:00
and corresponding to lab # 221104-14
SS-A1-01
SS-A4-01
1lb
1000
Trehard


37265 Yermo Rd, Yermo, CA
Photo #03; 11-04-2022
SS-A1-02


37265 Yermo Rd, Yermo, CA
Photo #04: 11-04-2022
SS-A1-02
SS-A1-02
11/5
1016
Orchard


37265 Yermo Rd, Yermo, CA
Photo #05; 11-04-2022
SS-A2-01


37265 Yermo Rd, Yermo, CA
Photo #06; 11-04-2022
SS-A2-01
SS-A2-01
1164 0805


37265 Yermo Rd, Yermo, CA
Photo #07; 11-04-2022
SS-A2-02


37265 Yermo Rd, Yermo, CA
Photo #08: 11-04-2022
SS-A2-02


37265 Yermo Rd, Yermo, CA
Photo #09; 11-04-2022
SS-A3-01


37265 Yermo Rd, Yermo, CA
Photo #10: 11-04-2022
SS-A3-01

37265 Yermo Rd, Yermo, CA
Photo #11; 11-04-2022




37265 Yermo Rd, Yermo, CA
Photo #12; 11-04-2022
SS-A3-02
SS-A3-02
11/04


37265 Yermo Rd, Yermo, CA
Photo #13; 11-04-2022
SS-A4-01


37265 Yermo Rd, Yermo, CA
Photo #14; 11-04-2022
SS-A4-01


37265 Yermo Rd, Yermo, CA
Photo #15; 11-04-2022
SS-A4-02


37265 Yermo Rd, Yermo, CA
Photo #16; 11-04-2022
SS-A4-02

ATTACHMENT B

Laboratory Analytical Reports

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: November 9, 2022

Ms. Anuya Dickinson
AltAir Paramount, LLC
14700 Downey Ave
Paramount, CA 90723-1418
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.net

Project: **World Energy_P09**
Lab I.D.: **221104-14 through -21**

Dear Ms. Dickinson:

The **analytical results (Fish Bioassay pending)** for the soil samples, received by our lab on November 4, 2022, are attached. The samples were received chilled, intact, and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Pearl Wong
Quality Manager

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or Manager's Designee, as verified by the above signature which applies to this PDS File as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of ELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04&07/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: **SS-A1-01** LAB I.D.: 221104-14

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	7.32	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	10^	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	10^	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	10^	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
^ = Actual detection limit raised due to matrix interference

pH Analyzed at temperature of 19.4 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A1-02** LAB I.D.: 221104-15

PARAMETER	UNIT	SAMPLE RESULT		PQL	DF	TEST METHOD
pH	pH UNITS	7.45		---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND		10	10	EPA 8015B
C10-C28 RANGE	mg/Kg	184	*	10	10	EPA 8015B
C28-C35 RANGE	mg/Kg	1100		50	10	EPA 8015B

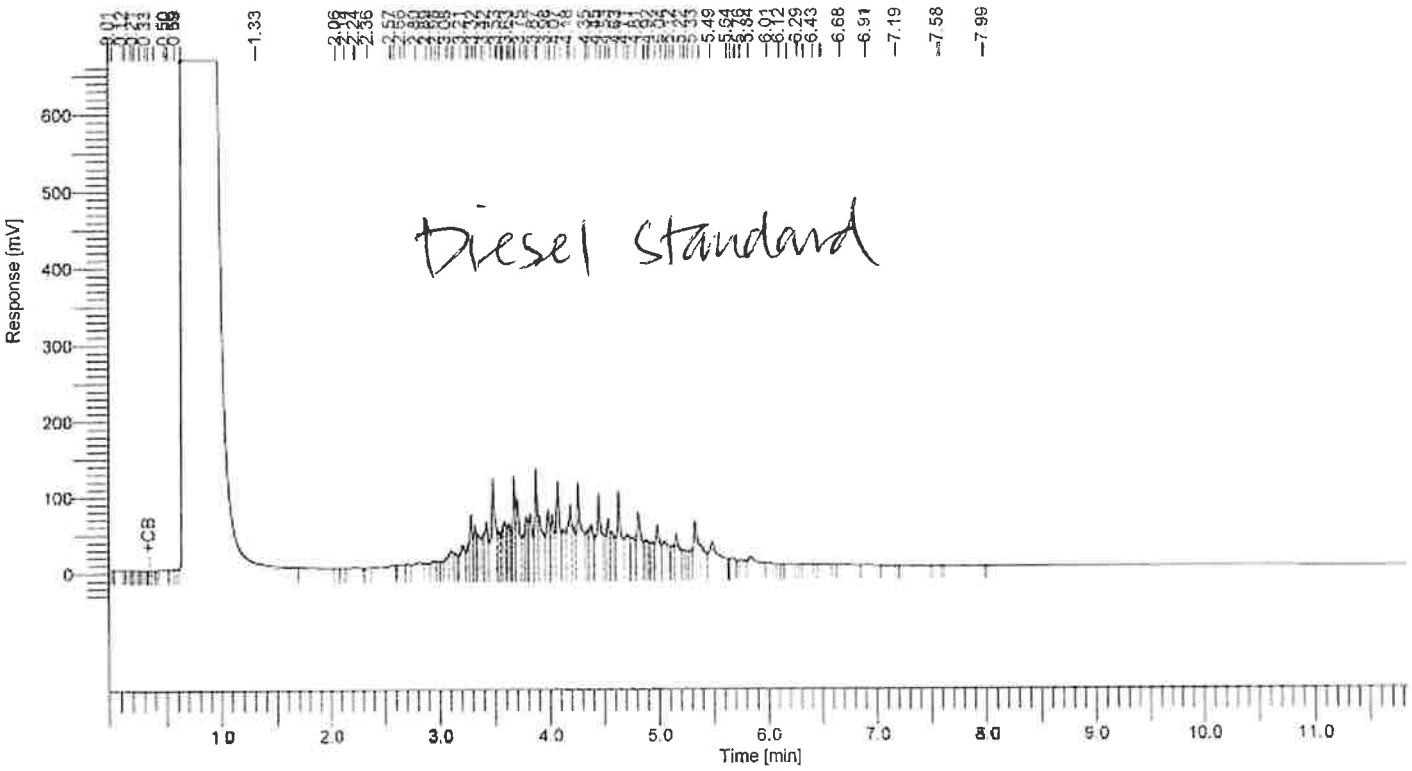
COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
* = Peaks in Diesel Range but chromatogram does not match that of Diesel Standard
pH Analyzed at temperature of 21.6 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Software Version : 6.3.4.0700
Sample Name : DIESEL CCV 2000 PPM (GC4049)
Instrument Name : GC-I
Rack/Vial : 0/3
Sample Amount : 1.000000
Cycle : 1

Date 11/8/2022 1:31:27 PM
Data Acquisition Time 11/7/2022 9:04:40 AM
Channel A
Operator Administrator
Dilution Factor 1.000000

Result File :
Sequence File : E:\GC DATA\GC-I\2022\I2211\I221107\I221107.seq



8015 Results

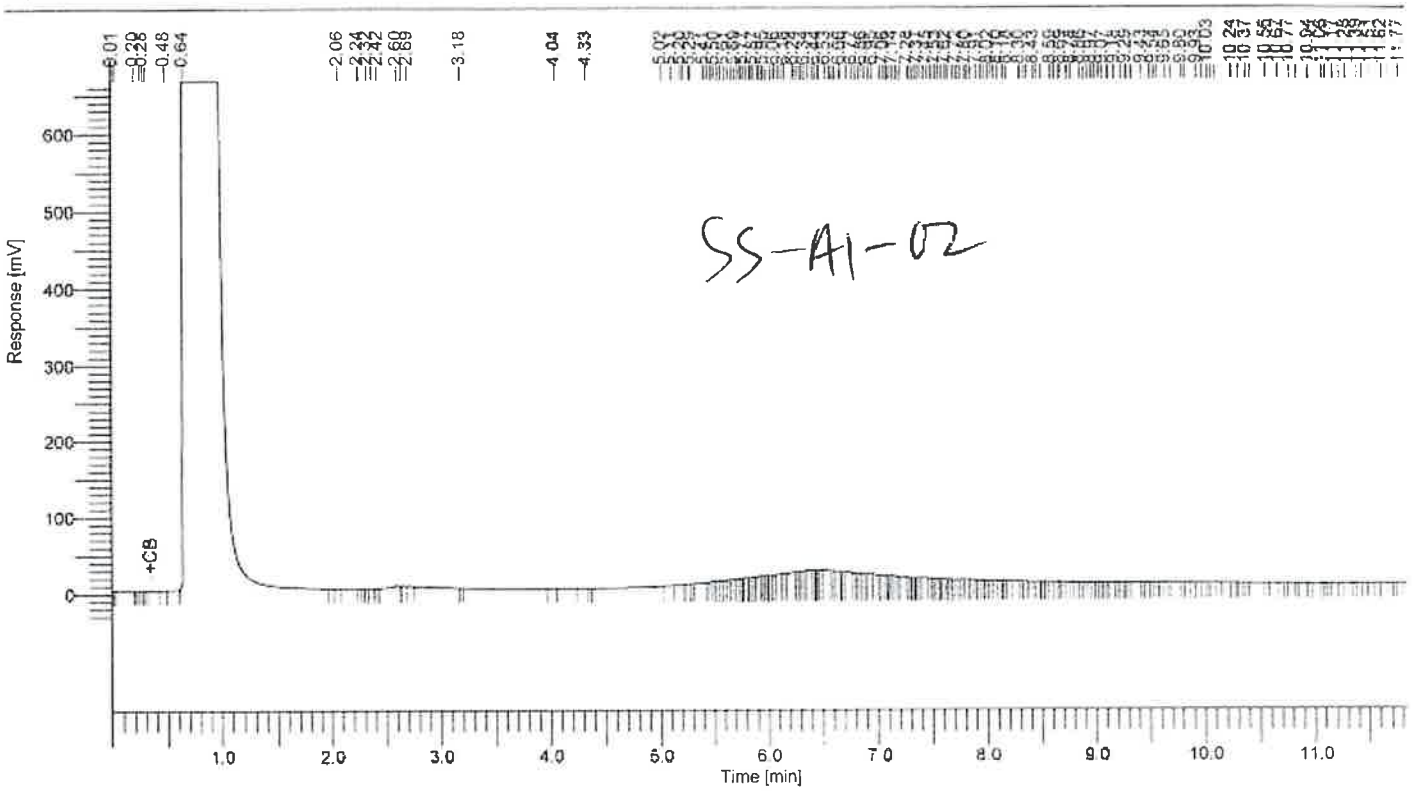
Component Name	Area [uV*sec]	Adjusted Amount
C10~C28	6861578	1975.2
	6861578	1975.2

Report stored in ASCII file: E:\GC DATA\GC-I\2022\I2211\I221107\A004.TXO

Software Version : 6.3.4.0700
Sample Name : 221104-15 20/20
Instrument Name : GC-I
Rack/Vial : 0/17
Sample Amount : 1.000000
Cycle : 1

Date : 11/8/2022 1:20:57 PM
Data Acquisition Time : 11/7/2022 4:49:04 PM
Channel : A
Operator : Administrator
Dilution Factor : 1.000000

Result File :
Sequence File : E:\GC DATA\GC-I\2022\I2211\I221107\I221107.seq



SS-A1-02

8015 Results

Component Name	Area [uV*sec]	Adjusted Amount
C4~C10	44379	-80.4
C10~C28	999263	183.7
C28~C35	1416522	1100.5
	2460164	1203.9

Report stored in ASCII file: E:\GC DATA\GC-I\2022\I2211\I221107\A031.TXO

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-01** LAB I.D.: 221104-16

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	7.54	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 19.4 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-02** LAB I.D.: 221104-17

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	8.08	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 21.8 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A3-01** LAB I.D.: 221104-18

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	8.05	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 21.8 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04&07/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	7.60	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	20^	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	20^	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	20^	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:2 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 19.4 Degree Celsius
^ = Actual detection limit raised due to matrix interference

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A4-01** LAB I.D.: 221104-20

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	7.47	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 21.7 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04&07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A4-02** LAB I.D.: 221104-21

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
pH	pH UNITS	7.07	---	-	EPA 9045C
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 21.6 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

METHOD BLANK FOR LAB I.D.: 221104-14 THROUGH -21

PARAMETER	UNIT	SAMPLE RESULT	PQL	DF	TEST METHOD
C4-C10 RANGE	mg/Kg	ND	10	1	EPA 8015B
C10-C28 RANGE	mg/Kg	ND	10	1	EPA 8015B
C28-C35 RANGE	mg/Kg	ND	50	1	EPA 8015B

COMMENTS:
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
pH Analysis Conducted on 1:1 Solid/Deionized water extraction
CCR T22 = California Code Of Regulations - Title 22
mg/Kg = Milligram Per Kilogram = PPM
C4-C10 = Gasoline Range/Date Extracted: 11/07/22
C10-C28 = Diesel Range/Date Extracted: 11/07/22
C28-C35 = Motor Oil Range/Date Extracted: 11/07/22
pH Analyzed at temperature of 19.4 Degree Celsius

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766
Tel (909)590-5905 Fax (909)590-5907

Matrix: SOLID/SOIL/SLUDGE

QA/QC Report

Analysis	Units	Date Analyzed	Sample I.D.	S.R.	Duplicate	% RPD	ACP %RPD
Alkalinity	mg/Kg					0.0%	0-20
Residual Chlorine	mg/Kg					0.0%	0-20
Density	g/mL					0.00%	0-20
EC	umhos/cm					0.0%	0-20
pH	pH units	11/4/2022	221104-21	7.04	7.06	0.28%	0-20
TDS	mg/L					0.0%	0-20
TSS	mg/Kg					0.0%	0-20
Resistivity	ohms					0.0%	0-20
% MOISTURE	%					0.0%	0-20
BTU	BTU/lb					0.0%	0-20
Salinity	S					0.00%	0-20

%RPD = Relative Percent Difference **ACP %RPD** = Acceptable Relative Percent Difference

Analysis	Units	Date Analyzed	Sample I.D.	Spk Conc	S.R.	ACP %RPD	ACP %RC	MS	MS %RC	MSD	MSD %RC	% RPD
Acidity	mg/Kg				0.00	0	80-120					#VALUE!
Ammonia as N	mg/Kg			50.0	0.00	0-20	80-120					#VALUE!
MBAS	mg/Kg			6.00	0.00	0-20	80-120					#VALUE!
Chloride	mg/Kg			200	0.0	0-20	80-120					#VALUE!
COD	mg/Kg			500	0.00	0-20	80-120					#VALUE!
Cr VI	mg/Kg			4.00	0.00	0-20	80-120					#VALUE!
Cyanide	mg/Kg			10.0	0.00	0-20	80-120					#VALUE!
Fluoride	mg/Kg			10.0	0.00	0-20	80-120					#VALUE!
Nitrate as N	mg/Kg			4.0	0.00	0-20	80-120					#VALUE!
Nitrite as N	mg/Kg			4.0	0.00	0-20	80-120					#VALUE!
Oil and Grease	mg/Kg			667	0.00	0-20	80-120					#VALUE!
PHOSPHATE	mg/Kg			100.0	0.00	0-20	80-120					#VALUE!
Sulfate	mg/Kg			200	29.1	0-20	80-120					#VALUE!
Sulfide	mg/Kg			3.00	0.00	0-20	80-120					#VALUE!
TRPH	mg/kg			667	0.00	0-20	80-120					#VALUE!
Sulfide, Reactive	mg/Kg			3.00	0.00	0-20	80-120					#VALUE!
EPA 1664A	mg/Kg			500	0.00	0-20	80-120					#VALUE!

S.R. = Sample Results **%RC** = Percent Recovery **ACP %RC** = Accepted Percent Recovery

Analyst Signature: _____

Final Reviewer: _____

Enviro Chem, Inc

1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

8015B QA/QC Report

Date Analyzed: 11/7~8/2022 **Units:** mg/Kg (ppm)

Matrix: **Soil/Solid/Sludge/Liquid**

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

Spiked Sample Lab I.D.: 221107-LCS 3/4

Analyte	SR	spk conc	MS	%MS	MSD	%MSD	%RPD	ACP %MS	ACP RPD
C10~C28 Range	0.00	200	205	**102%**	218	**109%**	**6%**	**75-125**	**0-20%**

LCS STD RECOVERY:

Analyte	spk conc	LCS	%REC	ACP
C10~C28 Range	200	204	**102%**	**75-125**

Analyzed and Reviewed By: KL

Final Reviewer: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A1-01 LAB I.D.: 221104-14

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD	
Antimony(Sb)	ND	1.0	10	500	15	6010B	
Arsenic(As)	44.1	0.5	10	500	5.0	6010B	RSL = .36
Barium(Ba)	97.6	5.0	10	10,000	100	6010B	
Beryllium(Be)	ND	0.5	10	75	0.75	6010B	
Cadmium(Cd)	ND	0.5	10	100	1.0	6010B	
Chromium Total(Cr)	47.4	0.5	10	2,500	560/5@	6010B	
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A	
Cobalt(Co)	ND	1.0	10	8,000	80	6010B	
Copper(Cu)	91.0	1.0	10	2,500	25	6010B	
Lead(Pb)	254 *	0.5	10	1,000	5.0	6010B	
Mercury(Hg)	0.068	0.01	1	20	0.2	7471A	
Molybdenum(Mo)	ND	5.0	10	3,500	350	6010B	
Nickel(Ni)	ND	2.5	10	2,000	20	6010B	
Selenium(Se)	ND	1.0	10	100	1.0	6010B	
Silver(Ag)	ND	1.0	10	500	5.0	6010B	
Thallium(Tl)	ND	1.0	10	700	7.0	6010B	
Vanadium(V)	ND	5.0	10	2,400	24	6010B	
Zinc(Zn)	589	0.5	10	5,000	250	6010B	

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A1-02** LAB I.D.: 221104-15

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony (Sb)	ND	1.0	1	500	15	6010B
Arsenic (As)	3.17	0.5	1	500	5.0	6010B
Barium (Ba)	129	5.0	1	10,000	100	6010B
Beryllium (Be)	ND	0.5	1	75	0.75	6010B
Cadmium (Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total (Cr)	18.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt (Co)	4.22	1.0	1	8,000	80	6010B
Copper (Cu)	20.4	1.0	1	2,500	25	6010B
Lead (Pb)	21.0	0.5	1	1,000	5.0	6010B
Mercury (Hg)	0.019	0.01	1	20	0.2	7471A
Molybdenum (Mo)	ND	5.0	1	3,500	350	6010B
Nickel (Ni)	6.90	2.5	1	2,000	20	6010B
Selenium (Se)	ND	1.0	1	100	1.0	6010B
Silver (Ag)	ND	1.0	1	500	5.0	6010B
Thallium (Tl)	ND	1.0	1	700	7.0	6010B
Vanadium (V)	30.3	5.0	1	2,400	24	6010B
Zinc (Zn)	50.2	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-01** LAB I.D.: 221104-16

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	3.32	1.0	1	500	15	6010B
Arsenic(As)	2.77	0.5	1	500	5.0	6010B
Barium(Ba)	83.6	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	0.552	0.5	1	100	1.0	6010B
Chromium Total(Cr)	17.4	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	3.83	1.0	1	8,000	80	6010B
Copper(Cu)	29.4	1.0	1	2,500	25	6010B
Lead(Pb)	9.81	0.5	1	1,000	5.0	6010B
Mercury(Hg)	0.017	0.01	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	4.55	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	22.9	5.0	1	2,400	24	6010B
Zinc(Zn)	1,130	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-02** LAB I.D.: 221104-17

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD	
Antimony (Sb)	ND	1.0	1	500	15	6010B	
Arsenic (As)	36.3	0.5	1	500	5.0	6010B	RSL = .36
Barium (Ba)	4.73	5.0	1	10,000	100	6010B	
Beryllium (Be)	94.3 ***	0.5	1	75	0.75	6010B	
Cadmium (Cd)	ND	0.5	1	100	1.0	6010B	
Chromium Total (Cr)	26.5	0.5	1	2,500	560/5@	6010B	
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A	
Cobalt (Co)	5.58	1.0	1	8,000	80	6010B	
Copper (Cu)	104	1.0	1	2,500	25	6010B	
Lead (Pb)	12.0	0.5	1	1,000	5.0	6010B	
Mercury (Hg)	ND	0.01	1	20	0.2	7471A	
Molybdenum (Mo)	ND	5.0	1	3,500	350	6010B	
Nickel (Ni)	8.34	2.5	1	2,000	20	6010B	
Selenium (Se)	8.95	1.0	1	100	1.0	6010B	
Silver (Ag)	ND	1.0	1	500	5.0	6010B	
Thallium (Tl)	ND	1.0	1	700	7.0	6010B	
Vanadium (V)	33.3	5.0	1	2,400	24	6010B	
Zinc (Zn)	212	0.5	1	5,000	250	6010B	

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A3-01** LAB I.D.: 221104-18

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	6.92	1.0	1	500	15	6010B
Arsenic(As)	2.13	0.5	1	500	5.0	6010B
Barium(Ba)	68.3	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	15.6	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	3.48	1.0	1	8,000	80	6010B
Copper(Cu)	11.1	1.0	1	2,500	25	6010B
Lead(Pb)	60.9 *	0.5	1	1,000	5.0	6010B
Mercury(Hg)	0.523	0.01	2	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	3.40	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	25.1	5.0	1	2,400	24	6010B
Zinc(Zn)	61.2	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/07&08/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	10	500	15	6010B
Arsenic(As)	5.49	0.5	10	500	5.0	6010B
Barium(Ba)	85.1	5.0	10	10,000	100	6010B
Beryllium(Be)	ND	0.5	10	75	0.75	6010B
Cadmium(Cd)	ND	0.5	10	100	1.0	6010B
Chromium Total(Cr)	15.8	0.5	10	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	ND	1.0	10	8,000	80	6010B
Copper(Cu)	13.0	1.0	10	2,500	25	6010B
Lead(Pb)	54.1 *	0.5	10	1,000	5.0	6010B
Mercury(Hg)	0.065	0.01	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	10	3,500	350	6010B
Nickel(Ni)	ND	2.5	10	2,000	20	6010B
Selenium(Se)	ND	1.0	10	100	1.0	6010B
Silver(Ag)	ND	1.0	10	500	5.0	6010B
Thallium(Tl)	ND	1.0	10	700	7.0	6010B
Vanadium(V)	ND	5.0	10	2,400	24	6010B
Zinc(Zn)	133	0.5	10	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/07&08/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A4-01** LAB I.D.: 221104-20

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	2.91	0.5	1	500	5.0	6010B
Barium(Ba)	77.1	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	17.1	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	3.61	1.0	1	8,000	80	6010B
Copper(Cu)	7.21	1.0	1	2,500	25	6010B
Lead(Pb)	5.99	0.5	1	1,000	5.0	6010B
Mercury(Hg)	0.019	0.01	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	4.15	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	27.8	5.0	1	2,400	24	6010B
Zinc(Zn)	23.2	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/07&08/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: SS-A4-02 LAB I.D.: 221104-21

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	2.09	0.5	1	500	5.0	6010B
Barium(Ba)	45.1	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	12.8	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	2.97	1.0	1	8,000	80	6010B
Copper(Cu)	5.76	1.0	1	2,500	25	6010B
Lead(Pb)	3.19	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.01	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	2.87	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	20.8	5.0	1	2,400	24	6010B
Zinc(Zn)	37.4	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: 
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22
MATRIX: SOLID
REPORTED TO: MS. ANUYA DICKINSON

DATE RECEIVED: 11/04/22
DATE ANALYZED: 11/07&08/22
DATE REPORTED: 11/09/22

METHOD BLANK FOR LAB I.D.: 221104-14 THROUGH -21

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD
Antimony(Sb)	ND	1.0	1	500	15	6010B
Arsenic(As)	ND	0.5	1	500	5.0	6010B
Barium(Ba)	ND	5.0	1	10,000	100	6010B
Beryllium(Be)	ND	0.5	1	75	0.75	6010B
Cadmium(Cd)	ND	0.5	1	100	1.0	6010B
Chromium Total(Cr)	ND	0.5	1	2,500	560/5@	6010B
Chromium VI (Cr6)	--	1.0	-	500	5.0	7196A
Cobalt(Co)	ND	1.0	1	8,000	80	6010B
Copper(Cu)	ND	1.0	1	2,500	25	6010B
Lead(Pb)	ND	0.5	1	1,000	5.0	6010B
Mercury(Hg)	ND	0.01	1	20	0.2	7471A
Molybdenum(Mo)	ND	5.0	1	3,500	350	6010B
Nickel(Ni)	ND	2.5	1	2,000	20	6010B
Selenium(Se)	ND	1.0	1	100	1.0	6010B
Silver(Ag)	ND	1.0	1	500	5.0	6010B
Thallium(Tl)	ND	1.0	1	700	7.0	6010B
Vanadium(V)	ND	5.0	1	2,400	24	6010B
Zinc(Zn)	ND	0.5	1	5,000	250	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5
* = STLC analysis for the metal is recommended (if marked)
** = Additional Analysis required, please call to discuss (if marked)
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)
-- = Not analyzed/not requested

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1559

QA/QC for Metals Analysis --TTLC--SOLID/SOIL MATRIX

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 11/7/2022

Unit : mg/Kg(ppm)

Analysis	Spk.Sample ID	CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Arsenic(As)	221104-16	50.0	102	PASS	2.77	50.0	56.8	108%	57.6	110%	1%
Chromium(Cr)	221104-16	50.0	100	PASS	17.4	50.0	65.4	96%	65.5	96%	0%
Lead(Pb)	221104-16	50.0	99	PASS	9.81	50.0	60.4	101%	60.7	102%	1%

ANALYSIS DATE. : 11/8/2022

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	221104-42	0.125	98	PASS	0.051	0.125	0.159	86%	0.159	87%	1%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Arsenic(As)	PASS	PASS	PASS	PASS
Chromium(Cr)	PASS	PASS	PASS	PASS
Lead(Pb)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A1-01 LAB I.D.: 221104-14

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A1-01 LAB I.D.: 221104-14

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A1-02 LAB I.D.: 221104-15

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A1-02 LAB I.D.: 221104-15

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-01** LAB I.D.: 221104-16

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A2-01 LAB I.D.: 221104-16

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A2-02** LAB I.D.: 221104-17

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A2-02 LAB I.D.: 221104-17

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A3-01 LAB I.D.: 221104-18

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: SS-A3-01 LAB I.D.: 221104-18

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B,
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X5*
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X5*
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
* = PQL RAISED DUE TO MATRIX INTERFERENCE
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: SS-A4-01 LAB I.D.: 221104-20

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

SAMPLE I.D.: SS-A4-01 LAB I.D.: 221104-20

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: **SS-A4-02** LAB I.D.: 221104-21

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

SAMPLE I.D.: SS-A4-02 LAB I.D.: 221104-21

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE:11/04/22 DATE RECEIVED:11/04/22
MATRIX:SOLID DATE ANALYZED:11/04/22
REPORTED TO:MS. ANUYA DICKINSON DATE REPORTED:11/09/22

METHOD BLANK FOR LAB I.D.: 221104-14 THROUGH -21

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 1 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
ACETONE	ND	0.020
BENZENE	ND	0.005
BROMOBENZENE	ND	0.005
BROMOCHLOROMETHANE	ND	0.005
BROMODICHLOROMETHANE	ND	0.005
BROMOFORM	ND	0.005
BROMOMETHANE	ND	0.005
2-BUTANONE (MEK)	ND	0.020
N-BUTYLBENZENE	ND	0.005
SEC-BUTYLBENZENE	ND	0.005
TERT-BUTYLBENZENE	ND	0.005
CARBON DISULFIDE	ND	0.010
CARBON TETRACHLORIDE	ND	0.005
CHLOROBENZENE	ND	0.005
CHLOROETHANE	ND	0.005
CHLOROFORM	ND	0.005
CHLOROMETHANE	ND	0.005
2-CHLOROTOLUENE	ND	0.005
4-CHLOROTOLUENE	ND	0.005
DIBROMOCHLOROMETHANE	ND	0.005
1,2-DIBROMO-3-CHLOROPROPANE	ND	0.005
1,2-DIBROMOETHANE	ND	0.005
DIBROMOMETHANE	ND	0.005
1,2-DICHLOROBENZENE	ND	0.005
1,3-DICHLOROBENZENE	ND	0.005
1,4-DICHLOROBENZENE	ND	0.005
DICHLORODIFLUOROMETHANE	ND	0.005
1,1-DICHLOROETHANE	ND	0.005
1,2-DICHLOROETHANE	ND	0.005
1,1-DICHLOROETHENE	ND	0.005
CIS-1,2-DICHLOROETHENE	ND	0.005
TRANS-1,2-DICHLOROETHENE	ND	0.005
1,2-DICHLOROPROPANE	ND	0.005

----- TO BE CONTINUED ON PAGE #2 -----

DATA REVIEWED AND APPROVED BY: _____

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: AltAir Paramount, LLC
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: World Energy_P09
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/04/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/09/22

METHOD BLANK FOR LAB I.D.: 221104-14 THROUGH -21

ANALYSIS: VOLATILE ORGANICS, EPA METHOD 5030B/8260B, PAGE 2 OF 2
UNIT: mg/Kg = MILLIGRAM PER KILOGRAM = PPM

PARAMETER	SAMPLE RESULT	PQL X1
1,3-DICHLOROPROPANE	ND	0.005
2,2-DICHLOROPROPANE	ND	0.005
1,1-DICHLOROPROPENE	ND	0.005
CIS-1,3-DICHLOROPROPENE	ND	0.005
TRANS-1,3-DICHLOROPROPENE	ND	0.005
ETHYLBENZENE	ND	0.005
2-HEXANONE	ND	0.020
HEXACHLOROBUTADIENE	ND	0.005
ISOPROPYLBENZENE	ND	0.005
4-ISOPROPYLTOLUENE	ND	0.005
4-METHYL-2-PENTANONE (MIBK)	ND	0.020
METHYL tert-BUTYL ETHER (MTBE)	ND	0.005
METHYLENE CHLORIDE	ND	0.010
NAPHTHALENE	ND	0.005
N-PROPYLBENZENE	ND	0.005
STYRENE	ND	0.005
1,1,1,2-TETRACHLOROETHANE	ND	0.005
1,1,2,2-TETRACHLOROETHANE	ND	0.005
TETRACHLOROETHENE (PCE)	ND	0.005
TOLUENE	ND	0.005
1,2,3-TRICHLOROBENZENE	ND	0.005
1,2,4-TRICHLOROBENZENE	ND	0.005
1,1,1-TRICHLOROETHANE	ND	0.005
1,1,2-TRICHLOROETHANE	ND	0.005
TRICHLOROETHENE (TCE)	ND	0.005
TRICHLOROFLUOROMETHANE	ND	0.005
1,2,3-TRICHLOROPROPANE	ND	0.005
1,2,4-TRIMETHYLBENZENE	ND	0.005
1,3,5-TRIMETHYLBENZENE	ND	0.005
VINYL CHLORIDE	ND	0.005
M/P-XYLENE	ND	0.010
O-XYLENE	ND	0.005

COMMENTS PQL = PRACTICAL QUANTITATION LIMIT
ND = NON-DETECTED OR BELOW THE PQL
DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro-Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909)590-5905 Fax (909)590-5907

8260B QA/QC Report

Date Analyzed: 11/4-5/22 **Matrix:** Solid/Soil/Liquid
Machine: D **Unit:** mg/Kg (PPM)

Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
Spiked Sample Lab I.D.: 221104-3 MS/MSD

Analyte	S.R.	spk conc	MS	%RC	MSD	%RC	%RPD	ACP %RC	ACP RPD
Benzene	0	0.050	0.041	82%	0.040	80%	2%	75-125	0-20
Chlorobenzene	0	0.050	0.042	84%	0.042	84%	0%	75-125	0-20
1,1-Dichloroethene	0	0.050	0.042	84%	0.042	84%	0%	75-125	0-20
Toluene	0	0.050	0.043	86%	0.040	80%	6%	75-125	0-20
Trichloroethene (TCE)	0	0.050	0.044	88%	0.038	76%	12%	75-125	0-20

Lab Control Spike (LCS):

Analyte	spk conc	LCS	%RC	ACP %RC
Benzene	0.050	0.040	80%	75-125
Chlorobenzene	0.050	0.043	86%	75-125
Chloroform	0.050	0.039	78%	75-125
1,1-Dichlorothene	0.050	0.038	76%	75-125
Ethylbenzene	0.050	0.042	84%	75-125
o-Xylene	0.050	0.042	84%	75-125
m,p-Xylene	0.100	0.077	77%	75-125
Toluene	0.050	0.042	84%	75-125
1,1,1-Trichloroethane	0.050	0.044	88%	75-125
Trichloroethene (TCE)	0.050	0.039	78%	75-125

Surrogate Recovery	spk conc	ACP %RC	MB %RC	%RC	%RC	%RC	%RC	%RC	%RC
Sample I.D.			M-BLK	221104-3	221104-6	221104-27	221104-28	221104-13	221104-14
Dibromofluoromethane	50.0	70-130	84%	97%	87%	85%	81%	88%	85%
Toluene-d8	50.0	70-130	92%	94%	93%	92%	94%	93%	93%
4-Bromofluorobenzene	50.0	70-130	103%	108%	104%	102%	103%	104%	104%

Surrogate Recovery	spk conc	ACP %RC	%RC	%RC	%RC	%RC	%RC	%RC	%RC
Sample I.D.			221104-15	221104-16	221104-17	221104-18	221104-19	221104-20	221104-21
Dibromofluoromethane	50.0	70-130	89%	88%	99%	89%	82%	87%	83%
Toluene-d8	50.0	70-130	95%	94%	90%	97%	90%	93%	94%
4-Bromofluorobenzene	50.0	70-130	106%	99%	85%	101%	91%	108%	101%

Surrogate Recovery	spk conc	ACP %RC	%RC	%RC	%RC	%RC	%RC	%RC	%RC
Sample I.D.			221104-40	221104-41	221104-42	221104-43	221104-44	221104-1	221104-29
Dibromofluoromethane	50.0	70-130	81%	79%	77%	78%	76%	80%	72%
Toluene-d8	50.0	70-130	93%	93%	93%	93%	93%	94%	92%
4-Bromofluorobenzene	50.0	70-130	103%	104%	104%	104%	103%	108%	107%

** = Surrogate fail due to matrix interference; LCS, MS, MSD are in control therefore the analysis is in control.*
S.R. = Sample Results *%RC = Percent Recovery*
spk conc = Spike Concentration *ACP %RC = Accepted Percent Recovery*
MS = Matrix Spike *MSD = Matrix Spike Duplicate*

Analyzed/Reviewed By:

Final Reviewer:

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: November 14, 2022

Ms. Anuya Dickinson
AltAir Paramount, LLC
14700 Downey Ave
Paramount, CA 90723-1418
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.net

Project: **World Energy_P09**
Lab I.D.: **221104-14 through -21**

Dear Ms. Dickinson:

The **additional STLC-Pb results** for the soil samples, received by our lab on November 4, 2022, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Pearl Wong
Quality Manager

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or Manager's Designee, as verified by the above signature which applies to this PDS File as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of ELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/12-14/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/14/22

SAMPLE I.D.: **SS-A1-01** LAB I.D.: 221104-14

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: mg/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Lead (Pb)	15.5 ***	0.05	1	1,000	5.0	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/12-14/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/14/22

SAMPLE I.D.: **SS-A3-01** LAB I.D.: 221104-18

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: mg/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Lead (Pb)	6.46 ***	0.05	1	1,000	5.0	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22
MATRIX: SOLID
REPORTED TO: MS. ANUYA DICKINSON

DATE RECEIVED: 11/04/22
DATE ANALYZED: 11/12-14/22
DATE REPORTED: 11/14/22

SAMPLE I.D.: **SS-A3-02**

LAB I.D.: 221104-19

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: mg/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Lead (Pb)	ND	0.05	10*	1,000	5.0	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the actual detection limit or non-detected
* = Actual Detection Limit raised due to matrix interference
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

DATA REVIEWED AND APPROVED BY: _____

CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/12-14/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/14/22

METHOD BLANK FOR LAB I.D.: 221104-14, -18, -19

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: mg/L IN THE STLC LEACHATE

ELEMENT ANALYZED	SAMPLE RESULT	PQL	DF	TTLC LIMIT	STLC LIMIT	EPA METHOD USED
Lead (Pb)	ND	0.05	1	1,000	5.0	6010B

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the actual detection limit or non-detected
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --STLC

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 11/14/2022 **Unit : mg/L (ppm)**

Analysis	Spk.Sample ID	LCS CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Chromium(Cr)	221104-18	5.00	96	PASS	0	5.00	3.58	72%	3.62	72%	1%
Copper(Cu)	221104-18	5.00	100	PASS	0.378	5.00	3.88	70%	3.89	70%	0%
Lead(Pb)	221104-18	5.00	103	PASS	7.46	5.00	11.4	79%	11.3	77%	3%

ANALYSIS DATE: 11/4/2022

Analysis	Spk.Sample ID	CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	221102-31	0.0125	93	PASS	0	0.0125	0.0107	86%	0.0111	89%	4%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Chromium(Cr)	FAIL*	FAIL*	PASS	PASS
Copper(Cu)	FAIL*	FAIL*	PASS	PASS
Lead(Pb)	PASS	PASS	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Gmail Pearl Wong <pw.envirocheminc@gmail.com>

RUSH Lab Report for Project: World Energy_P09 (Lab ID: 221104-14~21)

Anuya Dickinson <adickinson@worldenergy.net> Thu, Nov 10, 2022 at 10:23 AM
To: Pearl Wong <pw.envirocheminc@gmail.com>, Kathryn Gleeson <kgleeson@worldenergy.net>, Omar Ponce <oponce@worldenergy.net>
Cc: "amia@amiadini.com" <amia@amiadini.com>

Hi Pearl,

Can we please conduct STLC analysis for Lead on the following:

R48

SS-A1-01 (221104-14) STLC-Pb
SS-A3-01 (-18)
SS-A3-02 (-19)

Thanks.

world energy

Anuya Sawant Dickinson
Sr. Environmental Compliance Engineer
World Energy Sustainable Fuels

(562) 577-1411 (562) 748-4706
adickinson@worldenergy.net
worldenergy.net
14700 Downey Ave, Paramount CA 90713

From: Pearl Wong <pw.envirocheminc@gmail.com>
Sent: Wednesday, November 9, 2022 4:00 PM
To: Anuya Dickinson <adickinson@worldenergy.net>; Kathryn Gleeson <kgleeson@worldenergy.net>; Omar Ponce <oponce@worldenergy.net>

[Quoted text hidden]

[Quoted text hidden]

AltAir 221104-14~21.pdf

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: November 16, 2022

Ms. Anuya Dickinson
AltAir Paramount, LLC
14700 Downey Ave
Paramount, CA 90723-1418
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.net

Project: **World Energy_P09**
Lab I.D.: **221104-14 through -21**

Dear Ms. Dickinson:

The **additional TCLP-Pb results** for the soil samples, received by our lab on November 4, 2022, are attached. The samples were received chilled, intact, accompanying chain of custody and also stored per the EPA protocols.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Pearl Wong
Quality Manager

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or Manager's Designee, as verified by the above signature which applies to this PDS File as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of ELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22
MATRIX: SOLID
REPORTED TO: MS. ANUYA DICKINSON
DATE RECEIVED: 11/04/22
DATE ANALYZED: 11/14-15/22
DATE REPORTED: 11/16/22

SAMPLE I.D.: **SS-A1-01** LAB I.D.: 221104-14

TCLP-METALS ANALYSIS (PER 40 CFR 261.24)
CONCENTRATION UNIT: mg/L IN LEACHATE

PARAMETER	RESULT	PQL	DF	EPA#	LIMIT@	EPA METHOD
LEAD (Pb)	3.08	0.01	1	D008	5.0	6010B

COMMENTS
mg/L = Milligram per Liter = PPM
TCLP Extraction Method = EPA 1311
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
EPA# = The EPA Hazardous Waste Number
LIMIT@ = The "EPA Acceptable Land Disposal Limit"
TCLP = Toxicity Characteristic Leaching Procedure
*** = The concentration exceeds the TCLP Limit (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/14-15/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/16/22

SAMPLE I.D.: **SS-A3-01** LAB I.D.: 221104-18

TCLP-METALS ANALYSIS (PER 40 CFR 261.24)
CONCENTRATION UNIT: mg/L IN LEACHATE

PARAMETER	RESULT	PQL	DF	EPA#	LIMIT@	EPA METHOD
LEAD (Pb)	1.42	0.01	1	D008	5.0	6010B

COMMENTS
mg/L = Milligram per Liter = PPM
TCLP Extraction Method = EPA 1311
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
EPA# = The EPA Hazardous Waste Number
LIMIT@ = The "EPA Acceptable Land Disposal Limit"
TCLP = Toxicity Characteristic Leaching Procedure
*** = The concentration exceeds the TCLP Limit (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/14-15/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/16/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

TCLP-METALS ANALYSIS (PER 40 CFR 261.24)
CONCENTRATION UNIT: mg/L IN LEACHATE

PARAMETER	RESULT	PQL	DF	EPA#	LIMIT@	EPA METHOD
LEAD (Pb)	ND	0.01	5*	D008	5.0	6010B

COMMENTS
mg/L = Milligram per Liter = PPM
TCLP Extraction Method = EPA 1311
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
* = Actual Detection Limit raised due to matrix interference
EPA# = The EPA Hazardous Waste Number
LIMIT@ = The "EPA Acceptable Land Disposal Limit"
TCLP = Toxicity Characteristic Leaching Procedure
*** = The concentration exceeds the TCLP Limit (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

METHOD BLANK REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/14-15/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/16/22

METHOD BLANK FOR LAB I.D.: 221104-14, -18, -19

TCLP-METALS ANALYSIS (PER 40 CFR 261.24)
CONCENTRATION UNIT: mg/L IN LEACHATE

PARAMETER	RESULT	PQL	DF	EPA#	LIMIT@	EPA METHOD
LEAD (Pb)	ND	0.01	1	D008	5.0	6010B

COMMENTS
mg/L = Milligram per Liter = PPM
TCLP Extraction Method = EPA 1311
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL X DF
ND = Below the Actual Detection Limit or non-detected
EPA# = The EPA Hazardous Waste Number
LIMIT@ = The "EPA Acceptable Land Disposal Limit"
TCLP = Toxicity Characteristic Leaching Procedure
*** = The concentration exceeds the TCLP Limit (if marked)

DATA REVIEWED AND APPROVED BY: _____
CAL-DHS ELAP CERTIFICATE No.: 1555

QA/QC for Metals Analysis --TCLP

Matrix Spike/ Matrix Spike Duplicate/ LCS :

ANALYSIS DATE: 11/15/2022

Unit : mg/L (ppm)

Analysis	Spk.Sample ID	CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Arsenic(As)	221104-18	1.00	100	PASS	0.019	1.00	0.862	84%	0.845	83%	2%
Chromium(Cr)	221104-18	1.00	102	PASS	0.007	1.00	0.816	81%	0.786	78%	4%
Lead(Pb)	221104-18	1.00	102	PASS	1.43	1.00	1.42	1%	1.42	1%	0%

ANALYSIS DATE: 11/15/2022

Analysis	Spk.Sample ID	CONC.	LCS %Rec.	LCS STATUS	Sample Result	Spike Conc.	MS	% Rec MS	MSD	% Rec MSD	% RPD
Mercury (Hg)	221114-2	0.0125	92	PASS	0	0.0125	0.0108	87%	0.0106	85%	2%

MS/MSD Status:

Analysis	%MS	%MSD	%LCS	%RPD
Arsenic(As)	PASS	PASS	PASS	PASS
Chromium(Cr)	PASS	PASS	PASS	PASS
Lead(Pb)	FAIL*	FAIL*	PASS	PASS
Mercury (Hg)	PASS	PASS	PASS	PASS
Accepted Range	75 ~ 125	75 ~ 125	85 ~ 115	0 ~ 20

ANALYST: _____

FINAL REVIEWER: _____

*=Fail due to matrix interference

Note:LCS is in control therefore results are in control

Gmail

Pearl Wong <pw.envirocheminc@gmail.com>

RUSH Lab Report for Project: World Energy_P09 (Lab ID: 221104-14~21)

Anuya Dickinson <adickinson@worldenergy.net> Mon, Nov 14, 2022 at 12:08 PM
To: Pearl Wong <pw.envirocheminc@gmail.com>
Cc: Kathryn Gleeson <kgleeson@worldenergy.net>, Omar Ponce <oponce@worldenergy.net>, "amia@amiadini.com" <amia@amiadini.com>

Hi Pearl ,

TCLP Pb

R48

Can we also do TCLP analysis for lead as well on the following:

SS-A1-01 (221104-14)
SS-A3-01 (-18)
SS-A3-02 (-19)

Do we have the STLC analysis?

Thanks.

world energy

Anuya Sawant Dickinson
Sr. Environmental Compliance Engineer
World Energy Sustainable Fuels

(562) 577-1411 (562) 748-4706
adickinson@worldenergy.net
worldenergy.net
14700 Downey Ave, Paramount CA 90713

[Quoted text hidden]

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
1 Week (Standard)
Other:

SAMPLE ID	LAB ID	SAMPLING TIME	DATE	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	VOCs 8260B	TPHcc	pH	TTLC Metals	Fish Bioassay									Misc./PO#
								Analysis Required													COMMENTS
SS-A1-01	221104-14	10:00	11/4/22	SOIL	1	AMB	N.A	X	X	X	X	X									IF TTLC
SS-A1-02	-15	10:10			1			X	X	X	X	X									IS STLC
SS-A2-01	-16	08:05			1			X	X	X	X	X									PLEASE
SS-A2-02	-17	08:15			1			X	X	X	X	X									CALL OR
SS-A3-01	-18	08:40			1			X	X	X	X	X									EMAIL
SS-A3-02	-19	08:50			1			X	X	X	X	X									
SS-A4-01	-20	09:30			1			X	X	X	X	X									
SS-A4-02	-21	09:40	"	"	1	"	"	X	X	X	X	X									
					6 bags																
						BILL TO WORLD ENERGY, LLC.															
						ATTN: ANANYA DICKINSON															

Company Name: AMI ADINI ENVIRONMENTAL SERVICES, INC.
Address: 1837 N. BERENDO ST.
City/State/Zip: LOS ANGELES, CA 90027

Project Contact: AMI ADINI
Tel: 323 899 5001 x/T
Fax/Email: AMI@AMIADINI.COM

Sampler's Signature:
Project Name/ID: WORLDENERGY-P09

Relinquished by: AMI ADINI	Received by:	Date & Time: 11/4/22 1300
Relinquished by:	Received by:	Date & Time:
Relinquished by:	Received by:	Date & Time:

Instructions for Sample Storage After Analysis:
O Dispose of O Return to Client O Store (30 Days)
O Other:

CHAIN OF CUSTODY RECORD

Date:

WHITE WITH SAMPLE · YELLOW TO CLIENT

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

Date: November 22, 2022

Ms. Anuya Dickinson
AltAir Paramount, LLC
14700 Downey Ave
Paramount, CA 90723-1418
Tel:(562)748-4613 E-Mail: Adickinson@WorldEnergy.net

Project: **World Energy_P09**
Lab I.D.: **221104-14 through -21**

Dear Ms. Dickinson:

The **Fish Bioassay results** for the soil samples, received by our lab on November 4, 2022, are attached. The samples were received chilled, intact, and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

Pearl Wong
Quality Manager

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or Manager's Designee, as verified by the above signature which applies to this PDS File as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of ELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A1-01** LAB I.D.: 221104-14

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

5% MORTALITY RATE AT 400 mg/L CONCENTRATION
(95% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A1-02** LAB I.D.: 221104-15

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A2-01** LAB I.D.: 221104-16

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A2-02** LAB I.D.: 221104-17

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A3-01** LAB I.D.: 221104-18

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY **NAUTILUS**, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE **No.: 1555**

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A3-02** LAB I.D.: 221104-19

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION (100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION (100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A4-01** LAB I.D.: 221104-20

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enviro – Chem, Inc.
1214 E. Lexington Avenue, Pomona, CA 91766 Tel (909) 590-5905 Fax (909) 590-5907

LABORATORY REPORT

CUSTOMER: **AltAir Paramount, LLC**
14700 Downey Ave., Paramount, CA 90723
Tel: (562) 748-4613 E-Mail: Adickinson@WorldEnergy.Net

PROJECT: **World Energy_P09**
SAMPLING DATE: 11/04/22 DATE RECEIVED: 11/04/22
MATRIX: SOLID DATE ANALYZED: 11/09-13/22
REPORTED TO: MS. ANUYA DICKINSON DATE REPORTED: 11/22/22

SAMPLE I.D.: **SS-A4-02** LAB I.D.: 221104-21

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS: **0% MORTALITY** RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L.

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ENTHALPY NAUTILUS, SAN DIEGO, CA

DATA REVIEWED AND APPROVED BY: _____
ENVIRO-CHEM'S CAL-DHS ELAP CERTIFICATE No.: 1555

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 472376
Report Level: II
Report Date: 11/21/2022

Analytical Report *prepared for:*

Jessica Lin
Enviro-Chem Inc.
1214 E. Lexington Avenue
Pomona, CA 91766

Location: World Energy_P09 (221104-14~21)

Authorized for release by:

Jim Lin, Service Center Manager
Jim.lin@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY

Sample Summary

Jessica Lin Enviro-Chem Inc. 1214 E. Lexington Avenue Pomona, CA 91766	Lab Job #: Location: Date Received:	472376 World Energy_P09 (221104-14~21) 11/07/22

Sample ID	Lab ID	Collected	Matrix
SS-A1-01 (221104-14)	472376-001	11/04/22 10:00	Soil
SS-A1-02 (221104-15)	472376-002	11/04/22 10:00	Soil
SS-A2-01 (221104-16)	472376-003	11/04/22 08:05	Soil
SS-A2-02 (221104-17)	472376-004	11/04/22 08:15	Soil
SS-A3-01 (221104-18)	472376-005	11/04/22 08:40	Soil
SS-A3-02 (221104-19)	472376-006	11/04/22 08:50	Soil
SS-A4-01 (221104-20)	472376-007	11/04/22 09:30	Soil
SS-A4-02 (221104-21)	472376-008	11/04/22 09:40	Soil

ENTHALPY

Case Narrative

Enviro-Chem Inc. 1214 E. Lexington Avenue Pomona, CA 91766 Jessica Lin	Lab Job Number: 472376 Location: World Energy_P09 (221104-14~21) Date Received: 11/07/22

This data package contains sample and QC results for eight soil samples, requested for the above referenced project on 11/07/22. The samples were received cold and intact.

Fish Bioassay (CDFG P&M 1988):

- CDFG P&M 1988 analysis performed by Enthalpy Nautilus in San Diego (CA ELAP #1802).
- No analytical problems were encountered.

Bioassay - Juvenile, OUT (Bioassay):

Enthalpy - Nautilus in San Diego, CA performed the analysis (see sublab report section for certifications). Please see the Enthalpy - Nautilus case narrative.

Enviro-Chem, Inc. Laboratories
1214 E. Lexington Avenue,
Pomona, CA 91766
Tel: (909) 590-5905 Fax: (909) 590-5907
CA-DHS ELAP CERTIFICATE #1555

Turnaround Time
0 Same Day
0 24 Hours
0 48 Hours
0 72 Hours
0 1 Week (Standard)
Other:

Misc./PO# 472376

SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	No. OF CONTAINERS	TEMPERATURE	PRESERVATION	Fish Bioassay	Analysis Required	COMMENTS
SS-A1-01 (221104-14)		11/4/22	10:00	Soil	1		None	X		
SS-A1-02 (221104-15)		11/4/22	10:00	Soil	1		None	X		
SS-A2-01 (221104-16)		11/4/22	8:05	Soil	1		None	X		
SS-A2-02 (221104-17)		11/4/22	8:15	Soil	1		None	X		
SS-A3-01 (221104-18)		11/4/22	8:40	Soil	1		None	X		
SS-A3-02 (221104-19)		11/4/22	8:50	Soil	1		None	X		
SS-A4-01 (221104-20)		11/4/22	9:30	Soil	1		None	X		
SS-A4-02 (221104-21)		11/4/22	9:40	Soil	1		None	X		

Company Name: Enviro-Chem, Inc	**Project Contact:** Jessica Lin	**Sampler's Signature:**	
Address: 1214 E. Lexington Avenue	**Tel:** 909-590-5905	**Project Name/ID:** World Energy P09 (221104-14~21)	
City/State/Zip: Pomona, CA 91766	**Fax/Email:** sub.envirocheminc @ gmail.com		
Relinquished by:	Received by:	Date & Time: 11/7/22 2:40 pm	Instructions for Sample Storage After Analysis:
Relinquished by: 11/7/22 3:45pm	Received by:	Date & Time: 11/7/22 1545	O Dispose of O Return to Client O Store (30 Days)
Relinquished by:	Received by:	Date & Time:	O Other:

Date: 5.5/0.3

CHAIN OF CUSTODY RECORD

WHITE WITH SAMPLE • YELLOW TO CLIENT

Page _____ of _____

4 of 41

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Enviro-Chem Inc. Project: World Energy_P09(221104-14~21)

Date Received: 11/7/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: _____ #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: _____ #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?			✔
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____ ☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: 11/7/22

Analysis Results for 472376

Jessica Lin
Enviro-Chem Inc.
1214 E. Lexington Avenue
Pomona, CA 91766

Lab Job #: 472376
Location: World Energy_P09 (221104-14~21)
Date Received: 11/07/22

Sample ID: SS-A1-01 (221104-14) **Lab ID: 472376-001** **Collected: 11/04/22 10:00**
Matrix: Soil

472376-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A1-02 (221104-15) **Lab ID: 472376-002** **Collected: 11/04/22 10:00**
Matrix: Soil

472376-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A2-01 (221104-16) **Lab ID: 472376-003** **Collected: 11/04/22 08:05**
Matrix: Soil

472376-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A2-02 (221104-17) **Lab ID: 472376-004** **Collected: 11/04/22 08:15**
Matrix: Soil

472376-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A3-01 (221104-18) **Lab ID: 472376-005** **Collected: 11/04/22 08:40**
Matrix: Soil

472376-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 472376

Sample ID: SS-A3-02 (221104-19)	Lab ID: 472376-006	Collected: 11/04/22 08:50
	Matrix: Soil	

472376-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A4-01 (221104-20)	Lab ID: 472376-007	Collected: 11/04/22 09:30
	Matrix: Soil	

472376-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

Sample ID: SS-A4-02 (221104-21)	Lab ID: 472376-008	Collected: 11/04/22 09:40
	Matrix: Soil	

472376-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: CDFG P&M 1988									
LC50	>750		mg/L	1.0	1	301464	11/09/22	11/13/22	EN

> Value exceeds indicated concentration

Laboratory Job Number 472376

Subcontracted Products

Enthalpy - Nautilus

Freshwater Acute Bioassay
Static Conditions
DF-018

Hazardous Waste Characterization

Water Quality Measurements & Test Organism Survival

Client: EA Orange

Test No's.: 2211-5085 – 2211-5093

Test Species: *P. promelas*

Start Date/Time: 11/9/22 1310

End Date/Time: 11/13/22 1136

Sample ID	Rep	Number of Live Organisms					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)					Percent Survival
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
Lab Control 1	A	10	10	10	10	9	21.2	21.3	21.3	20.9	21.8	8.8	8.5	8.4	8.6	8.5	7.77	7.63	7.61	7.61	7.70	90
	B	10	10	10	10	10	21.1	20.9	21.6	21.2	21.9	8.9	8.7	8.5	8.6	8.6	7.74	7.65	7.67	7.62	7.77	100
Tech Initials:	Counts:	WF	WF	WF	WF	WF																
	Readings:	WF	WF	WF	WF	WF																
	Initial Count QC:	WF 10																				

Concentration	Alkalinity[a]		Hardness[a]	
	Init.	Fin.	Init.	Fin.
Control	25	24	43	45

[a](mg/L as $CaCO_3$)

Fish size at test intiation[b]:

Weights (g): 0.336 0.283 0.327 0.281 0.394 0.334 0.350 0.265 0.290 0.269

Lengths (mm): 31.0 30.0 30.0 30.0 31.5 31.5 30.0 28.0 29.0 31.0

Mean (g) = 0.323

Mean (mm) = 30.0 ~~30.200~~ RL 11/14/22

Weight min/max (g) = 0.265 / 0.394

Length min/max (mm) = 28.0 / 31.5

Loading rate (g/L)[c] = 0.646

Initials and Date: WF 11/9/22

Animal Source/Date Received: Thomas Fish Co. 11/1/22 + 11/8/22

Age at Initiation: Juvenile

Environmental Chamber: T22 Room

Animal Acclimation Qualifiers (circle all that apply): Q22 / (Q23) / none

Comments: [b]10 random fish are sacrificed at initiation for size determination. The largest fish should not weigh more than 1.5X the smallest fish.

[c]Loading rate should not exceed 1.0 g/L

QC Check: RL 11/14/22

Final Review: AJS 11/14/22

Freshwater Acute Bioassay
Static Conditions
DF-018

Hazardous Waste Characterization

Water Quality Measurements & Test Organism Survival

Client: EA Orange
Test No.: 7211-5091- 7211-5093
Sample Log-in #: 22-5312 - 22-5314

Test Species: *P. promelas*
Start Date/Time: 11/9/22 1310
End Date/Time: 11/13/22 1136

Lab ID	Conc. (mg/L)	Rep	Number of Live Organisms					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)					Percent Survival
			0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
472312-002	400	A	10	10	10	10	10	20.7	20.9	21.0	20.0	21.3	9.0	8.5	8.2	9.0	8.7	7.82	7.65	7.74	7.79	7.81	100
	400	B	10	10	10	10	10	20.8	20.2	20.9	20.5	20.5	8.9	8.6	8.3	8.8	8.9	7.82	7.65	7.71	7.75	7.82	100
	750	A	10	10	9	7	7	20.8	20.9	20.1	20.8	21.2	8.9	8.4	8.5	8.3	8.6	7.83	7.61	7.62	7.62	7.78	70
	750	B	10	9	8	8	8	20.8	21.1	20.6	20.7	21.4	8.9	8.5	8.4	8.5	8.4	7.85	7.60	7.65	7.69	7.72	80
472376-001 SS-A1-01	400	A	10	10	10	10	10	20.9	21.0	19.9	20.6	21.6	8.9	8.5	8.8	8.4	8.5	7.82	7.57	7.68	7.76	7.75	100
	400	B	10	9	9	9	9	20.9	21.1	21.1	21.0	21.6	8.9	8.5	8.5	8.3	8.5	7.87	7.69	7.68	7.74	7.79	90
	750	A	10	10	10	10	10	20.9	21.2	21.2	21.0	21.6	8.9	8.5	8.4	8.4	8.5	7.86	7.63	7.66	7.75	7.77	100
	750	B	10	10	10	10	10	20.9	21.2	21.5	20.1	21.8	8.9	8.5	8.4	8.7	8.4	7.87	7.67	7.71	7.82	7.81	100
472376-002 SS-A1-02	400	A	10	10	10	10	10	21.1	20.7	21.2	20.2	21.8	8.8	8.7	8.4	8.7	8.5	7.83	7.64	7.72	7.79	7.83	100
	400	B	10	10	10	10	10	20.9	20.3	21.2	20.5	21.8	8.9	8.9	8.3	8.5	8.5	7.87	7.68	7.62	7.78	7.79	100
	750	A	10	10	10	10	10	20.9	20.4	20.5	20.5	21.5	8.8	8.8	8.7	8.5	8.5	7.84	7.66	7.69	7.76	7.86	100
	750	B	10	10	10	10	10	20.9	21.0	21.3	21.1	21.7	8.8	8.7	8.5	8.5	8.6	7.84	7.74	7.76	7.80	7.92	100
Tech Initials:	Counts:		WF/MF	WF	WF	WF	VF																
	Readings:		WF	WF	WF	WF	KD																
	Initial Count QC:		WF/KD																				

Concentration	Alkalinity* Init.	Alkalinity* Fin.	Hardness* Init.	Hardness* Fin.
472312-002 750 mg/L	26	31	42	43
472376-001 750 mg/L	28	34	41	46
472376-002 750 mg/L	25	32	42	44

*(mg/L as $CaCO_3$)

472312-002 Sample Description: Blue liquid
472376-001 Sample Description: Brown dirt
472376-002 Sample Description: Brown dirt + gravel mix

Environmental Chamber: T22 Room
Animal Source/Date Received: Thomas Fish Co. 11/1/22 + 11/8/22
Control Fish Batch: 1

Comments:

QC Check: RL 11/14/22
Final Review: ACS 11/14/22

Enthalpy Analytical. 4340 Vandever Avenue. San Diego, CA 92120.

Freshwater Acute Bioassay
Static Conditions
DF-018

Hazardous Waste Characterization

Water Quality Measurements & Test Organism Survival

Client: EA Orange

Test No's.: 2211-5094 – 2211-5103

Test Species: *P. promelas*

Start Date/Time: 11/9/22 1310

End Date/Time: 11/13/22 1136

Sample ID	Rep	Number of Live Organisms					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)					Percent Survival
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
Lab Control 2	A	10	10	10	10	10	20.7	20.7	20.6	20.7	21.0	8.8	8.6	8.4	8.3	8.6	7.83	7.57	7.65	7.68	7.78	100
	B	10	10	10	10	10	20.7	20.8	20.9	20.9	21.5	8.8	8.6	8.4	8.3	8.6	7.82	7.63	7.69	7.77	7.91	100
Tech Initials:	Counts:	WF/KD	WF	WF	WF	KD																
	Readings:	WF	WF	WF	WF	KD																
	Initial Count QC:	WF 11/9/22																				

Concentration	Alkalinity[a]		Hardness[a]	
	Init.	Fin.	Init.	Fin.
Control	26	31	46	45

[a](mg/L as $CaCO_3$)

Fish size at test intiation[b]:

Weights (g):	0.338	0.252	0.327	0.281	0.394	0.384	0.350	0.265	0.350	0.369
Lengths (mm):	31.0	30.0	30.0	30.0	31.5	31.5	30.0	28.0	29.0	31.0

Mean (g) = 0.323

Mean (mm) = 30.2 ~~30.200~~ GLB RL 11/14/22

Weight min/max (g) = 0.265 / 0.394

Length min/max (mm) = 28.0 / 31.5

Loading rate (g/L)[c] = 0.646

Initials and Date: WF 11/9/22

Animal Source/Date Received: Thomas Fish Co. 11/1/22 + 11/8/22

Age at Initiation: Juvenile

Environmental Chamber: T22 Room

Animal Acclimation Qualifiers (circle all that apply): Q22 / (Q23) / none

Comments: [b]10 random fish are sacrificed at initiation for size determination. The largest fish should not weigh more than 1.5X the smallest fish.
[c]Loading rate should not exceed 1.0 g/L

QC Check: RL 11/14/22

Final Review: ACS 11/14/22

Enthalpy Analytical. 4340 Vandever Avenue. San Diego, CA 92120.

Freshwater Acute Bioassay
Static Conditions
DF-016

Hazardous Waste Characterization

Water Quality Measurements & Test Organism Survival

Client: EA Orange
Test No.: 2211-5094 - 2211-5096
Sample Log-in #: 22-5315 - 22-5317

Test Species: *P. promelas*
Start Date/Time: 11/9/22 1310
End Date/Time: 11/13/22 1136

Lab ID	Conc. (mg/L)	Rep	Number of Live Organisms 0	24	48	72	96	Temperature (°C) 0	24	48	72	96	Dissolved Oxygen (mg/L) 0	24	48	72	96	pH (units) 0	24	48	72	96	Percent Survival
472376-003 SS-A2-01	400	A	10	10	10	10	10	21.0	21.5	21.7	21.4	21.9	8.8	8.5	8.1	8.2	8.3	7.91	7.65	7.69	7.72	7.78	100
	400	B	10	10	10	10	10	20.9	21.5	20.8	21.2	21.8	8.7	8.3	8.3	8.2	8.4	7.91	7.55	7.67	7.66	7.79	100
	750	A	10	10	10	10	10	20.9	21.5	21.4	21.1	21.8	8.8	8.3	8.2	8.2	8.3	7.94	7.57	7.64	7.66	7.84	100
	750	B	10	10	10	10	10	20.7	20.7	20.7	20.7	21.4	8.9	8.7	8.6	8.6	8.6	7.93	7.69	7.77	7.78	7.95	100
472376-004 SS-A2-02	400	A	10	10	10	10	10	20.7	20.4	20.8	21.0	21.4	8.9	8.7	8.4	8.3	8.4	8.03	7.69	7.73	7.74	7.86	100
	400	B	10	10	10	10	10	20.6	20.5	20.8	21.2	21.6	8.9	8.6	8.4	8.3	8.4	7.98	7.70	7.75	7.75	7.91	100
	750	A	10	10	10	10	10	20.4	20.8	20.5	20.6	21.0	9.0	8.6	8.6	8.6	8.6	8.21	7.85	7.92	7.97	8.11	100
	750	B	10	10	10	10	10	20.4	20.8	21.1	20.5	20.7	9.0	8.4	8.3	8.5	8.6	8.22	7.73	7.81	7.80	7.99	100
472376-005 SS-A3-01	400	A	10	10	10	10	10	20.5	21.2	21.1	21.0	21.6	8.9	8.5	8.5	8.5	8.5	7.90	7.63	7.73	7.76	7.84	100
	400	B	10	10	10	10	10	20.7	21.4	20.7	20.7	21.7	8.9	8.3	8.4	8.3	8.5	7.84	7.59	7.69	7.69	7.82	100
	750	A	10	10	10	10	10	20.6	21.0	20.3	20.1	21.1	8.9	8.6	8.7	8.8	8.6	7.87	7.69	7.76	7.79	7.90	100
	750	B	10	10	10	10	10	20.7	20.4	20.7	20.8	21.0	8.9	8.6	8.4	8.3	8.4	7.91	7.61	7.66	7.68	7.78	100
Tech Initials:	Counts:		WF	WF	WF	WF	WF																
	Readings:		WF	WF	WF	WF	WF																
	Initial Count QC		WF																				

Concentration	Alkalinity[a] Init.	Fin.	Hardness[a] Init.	Fin
472376-003 750 mg/L	28	35	45	51
472376-004 750 mg/L	31	50	55	75
472376-005 750 mg/L	28	31	43	47

[a](mg/L as $CaCO_3$)

472376-003 Sample Description: dark brown dirt
472376-004 Sample Description: Dark brown dirt
472376-005 Sample Description: tan sand

Environmental Chamber: T22 Room
Animal Source/Date Received: Thomas Fish Co. 11/1/22 + 11/8/22
Control Fish Batch: 2

Comments:

QC Check: RL 11/14/22
Final Review: ACJ 11/14/22

Freshwater Acute Bioassay
Static Conditions
DF-016

Hazardous Waste Characterization

Water Quality Measurements & Test Organism Survival

Client: EA Orange
Test No: 2211-5097 - 2211-5099
Sample Log-in #: 22-5318 - 22-5320

Test Species: *P. promelas*
Start Date/Time: 11/9/22 1310
End Date/Time: 11/13/22 1136

Lab ID	Conc. (mg/L)	Rep	Number of Live Organisms					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)					Percent Survival
			0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
472376-006 SS-A3-02	400	A	10	10	10	10	10	20.6	20.6	21.1	20.0	21.1	8.8	8.2	7.9	7.9	8.5	7.81	7.60	7.60	7.68	7.82	100
	400	B	10	10	10	10	10	20.6	20.1	21.1	20.4	21.0	8.7	8.4	8.1	8.5	8.6	7.78	7.62	7.65	7.75	7.88	100
	750	A	10	10	10	10	10	20.5	20.4	20.1	20.9	21.3	8.7	8.3	8.2	8.2	8.3	7.79	7.61	7.61	7.69	7.81	100
	750	B	10	10	10	10	10	20.5	20.4	20.5	20.8	21.2	8.7	8.2	8.2	8.1	8.3	7.78	7.54	7.58	7.65	7.78	100
472376-007 SS-A4-01	400	A	10	10	10	10	10	20.4	20.7	20.7	20.4	21.0	8.9	8.6	8.5	8.6	8.5	7.80	7.55	7.62	7.72	7.86	100
	400	B	10	10	10	10	10	20.4	20.7	20.5	20.3	21.2	9.0	8.5	8.5	8.6	8.5	7.82	7.55	7.60	7.72	7.79	100
	750	A	10	10	10	10	10	20.3	20.9	21.0	20.8	21.4	9.0	8.5	8.5	8.5	8.4	7.83	7.58	7.60	7.71	7.80	100
	750	B	10	10	10	10	10	20.7	21.3	21.2	21.6	21.6	8.8	8.5	8.4	8.4	8.5	7.80	7.65	7.64	7.71	7.86	100
472376-008 SS-A4-02	400	A	10	10	10	10	10	20.7	20.9	20.6	21.2	21.9	8.5	8.4	8.4	8.5	8.5	7.79	7.66	7.64	7.75	7.84	100
	400	B	10	10	10	10	10	20.7	21.4	21.4	21.3	22.0	8.4	8.4	8.3	8.4	8.5	7.80	7.62	7.66	7.72	7.85	100
	750	A	10	10	10	10	10	20.7	20.8	20.6	20.4	20.9	8.6	8.6	8.5	8.6	8.7	7.80	7.61	7.63	7.67	7.82	100
	750	B	10	10	10	10	10	20.8	20.7	21.4	20.1	21.7	8.7	8.6	8.3	8.7	8.4	7.79	7.64	7.63	7.73	7.85	100
Tech Initials:	Counts:		DH/WF	WF	WF	WF	KD																
	Readings:		WF	WF	WF	WF	KD																
	Initial Count QC:		WF/DH																				

Concentration	Alkalinity* Init.	Alkalinity* Fin.	Hardness* Init.	Hardness* Fin.
472376-006 750 mg/L	26	42	63	72
472376-007 750 mg/L	27	31	42	45
472376-008 750 mg/L	27	30	45	43

*(mg/L as $CaCO_3$)

472376-006 Sample Description: Sand, plant debris, paper
472376-007 Sample Description: Tan sand
472376-008 Sample Description: Brown dirt, plant debris

Environmental Chamber: T22 Room
Animal Source/Date Received: Thomas Fish Co. 11/1/22 + 11/8/22
Control Fish Batch: 2

Comments:

QC Check: RL 11/14/22
Final Review: AKS 11/14/22

ENTHALPY

Enthalpy Analytical - Orange
Orange, CA 92868
(714) 771-6900 / Fax: (510) 486-0532

Subcontract Laboratory:
Enthalpy - Nautilus
4340 Vandever Ave.
San Diego, CA 92120
ATTN: Kasey Skrivseth
PO #: Required, to be sent via email

Enthalpy Order: EO-472376
PM: Jim Lin
Email: Jim.lin@enthalpy.com
CC: incomingreports@enthalpy.com
Phone: (714) 771-6900

Results Due: Standard TAT
Report Level: II
Report To: RL
EDDs:

Notes:

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment	
SS-A1-01 (221104-14)	04-NOV-2022 10:00	472376-001	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5313	brown dirt
SS-A1-02 (221104-15)	04-NOV-2022 10:00	472376-002	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5314	brown dirt gravel in
SS-A2-01 (221104-16)	04-NOV-2022 08:05	472376-003	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5315	dark brown dirt
SS-A2-02 (221104-17)	04-NOV-2022 08:15	472376-004	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5316	dark brown dirt
SS-A3-01 (221104-18)	04-NOV-2022 08:40	472376-005	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5317	Tan Sand
SS-A3-02 (221104-19)	04-NOV-2022 08:50	472376-006	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5318	sand, plant debris, fap
SS-A4-01 (221104-20)	04-NOV-2022 09:30	472376-007	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5319	Tan Sand
SS-A4-02 (221104-21)	04-NOV-2022 09:40	472376-008	1	Soil	Bioassay Hazardous Waste, Juvenile	22-5320	brown dirt, plant debri

Notes:	Relinquished By:	Received By:
	Date: 11/9/22 11:55	Date: 11/8/22 1155
	Date:	Date:
	Date:	Date:

Glossary of Qualifier Codes

Q1 - Temperature out of recommended range; corrective action taken and recorded in Test Temperature Correction Log

Q2 - Temperature out of recommended range; no action taken, test terminated same day

Q3 - Sample pH adjusted to within range of 6-9 with reagent grade NaOH or HCl, as needed

Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L

Q5 - Test initiated with continuous aeration due to an anticipated drop in D.O.

Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred

Q7 - Salinity out of recommended range

Q8 - Spilled test chamber/ Unable to recover test organism(s)

Q9 - Inadequate sample volume remaining, partial renewal performed

Q10 - Inadequate sample volume remaining, no renewal performed

Q11 - Sample out of holding time; refer to QA section of report

Q12 - Replicate(s) not initiated; excluded from data analysis

Q13 - Survival counts not recorded due to poor visibility or heavy debris

Q14 - D.O. percent saturation was checked and was ≤ 110%

Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.

Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set. Test results were reviewed and reported in accordance with guidance found in EPA-833-R-00-003, 2000 unless otherwise specified.

Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set. Test results were reviewed and reported in accordance with EPA-833-R-00-003, 2000 guidance unless otherwise specified.

Q18 - Incorrect or illegible Entry

Q19 - Miscalculation

Q20 - PMSD criteria do not apply to the test of significant toxicity (TST) analysis

Q21 - Other (provide reason in comments section)

Q22 - Greater than 10% batch mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Enthalpy and ultimately deemed fit to use for testing.

Q23 - Test organisms experienced a temperature shift greater than 3°C within 1 day or were received at a temperature greater than 3°C outside the recommended test temperature range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

Q24 - Test organisms experienced a salinity shift greater than 3 ppt within 1 day or were received at a salinity greater than 3 ppt outside the recommended test salinity range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

American Integrated Services, Inc.
P.O. Box 92316
Long Beach CA 90809-2316
(310) 522-1168

License: 757133

Service Invoice

Invoice#: 2030691
AIS Project#: 42079
Date: 06/28/2023

Billed To: TRI-POINT CONSTRUCTION
8810 FM 1960 BYPASS RD W
HUMBLE TX 77338

Location: Yermo
Marine St
Yermo CA

Contact:

Contract #

Description of Services: Transportation and Disposal

Representative: Melynda K Borrego

Client Project#:

Client PO#:

Service Date	Description	Qty	Unit Price	Total
	Transportation and Disposal	1.00	20,887.93	20,887.93

Remit to Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

AIS Tax ID No.
95-4698255

Non-Taxable Amount:	20,887.93
Taxable Amount:	0.00
Sales Tax:	0.00
Amount Due	**20,887.93**

American Integrated Services, Inc.
P.O. Box 92316
Long Beach CA 90809-2316 (310) 522-1168

INVOICE FOR APPROVAL

Invoice#: 2030691
AIS Project#: 42079
Date: 6/28/2023

Billed To: Tri-Point Construction Services, Inc.
8810 FM 1960 Bypass Road West
Humble, TX 77338
AP Email: accountspayable@tripointconstruction.com
Contact: Eric Edwards
Phone: 409-599-7957

Project: UPRR 22020 UPRR YERMO, CA IWS
1 Union Pacific Road
Yermo, CA 92398

Description of Services: Trash bin disposal and VT loads to World Oil

Client Project #:
Client PO#: 22U020-013

Qty	Description	UOM	SVC Date	Unit Price	Amount
9.00	Roll off truck- R. Ruiz (Trash Bin)	HR	03/30/23	$ 160.00	$ 1,440.00
1.20	BARSTOW LANDFILL + 20%			$ 134.27	$ 161.12
					$ -
11.50	120 BBL Vac Truck - C. Zorrila (Load to World Oil	HR	05/16/23	$ 160.00	$ 1,840.00
1.20	World Oil INV I400-00113979			$ 5,431.97	$ 6,518.36
					$ -
1.20	120 BBL Vac Truck -S.B. Vac Load- Run load next day	HR	06/01/23	$ 1,475.00	$ 1,770.00
1.20	120 BBL Vac Truck -S.B. Vac Load- Off load at World Oil	HR	06/02/23	$ 1,175.00	$ 1,410.00
1.20	World Oil INV			$ 2,222.71	$ 2,667.25
1.20	120 BBL Vac Truck -S.B. Vac Load- Run load next day	HR	06/01/23	$ 1,547.50	$ 1,857.00
1.20	120 BBL Vac Truck - S.B. Vac Off Load to World Oil	HR	06/02/23	$ 1,257.50	$ 1,509.00
1.20	World Oil INV			$ 1,454.43	$ 1,745.32
7.00	Roll off truck- R. Ruiz (Trash Bin)	HR	06/22/23	$ 160.00	$ 1,120.00
1.20	BARSTOW LANDFILL + 20%			$ 241.56	$ 289.87
	On Site- 6-1-23 to 6-30-23				$ -
0.00	B16244 Tires			$ 20.00	$ -
0.00	112 Trash			$ 20.00	$ -
					$ -
				AMOUNT TO APPROVE:	**$ 20,887.93**

REV 06-01-21

164723

American Integrated Services, Inc.

P.O. BOX 92316 LONG BEACH, CA. 90809
Office 310-522-1168 Fax 310-522-1182
24 Hour Emergency Hotline 888-423-6060

TRANSPORTATION WORK ORDER

CUSTOMER NAME: Tri Point Construction	**JOB #** 42079	**DATE:** 3-30-23
JOBSITE:		**CONTACT:**
ADDRESS: Jellico street and Marine rd		**CUSTOMER P.O.:**
CITY: Yermo, CA.		

EQUIPMENT:
☐ LOWBOY
☑ ROLL – OFF ☐ BOX VAN
☐ VAC TRUCK ☐ STAKE BED
☐ _____

TRUCK # 599
TRAILER # 210-T

Manifest# :	Disposal Location:
	Barstow landfill

Bin #:	Pickup / Deliver √	Return / Destination √	BIN LINERS:
			☐ USED ___How many
112	✓	✓	☐ NOT USED
			Tarps: ☐ Yes ☐ No

On Site Start	On Site Stop	DESCRIPTION
0730	1300	Arrived at site
1300	1330	Lunch
1330	1700	Back at Riverside

REPORTING TIME	ENDING TIME	TOTAL TIME	DEDUCTIBLE TIME	NET TIME
0730	1730	9.5	.5	9

X Ricardo Ruiz
DRIVER

X
CUSTOMER SIGNATURE

White - Billing • Green - Time Sheet • Yellow - Office • Pink - Driver • Gold - Customer

WEIGHT RECEIPT

- WARNING -
This Document is Heat-Sensitive!

County of San Bernardino
SOLID WASTE MANAGEMENT DIVISION
222 W Hospitality Lane/2nd Floor
San Bernardino, CA. 92415-0017

Trans #: **580250821**
Date: **03/30/23**
Loc: **58 /Barstow**

	Time	Operator	Lane
IN	12:02 PM	DM1	01
OUT	12:33 PM	DM1	01

Customer: American Integrated Service
Account: **001411**
Decal: **056019**
Vehicle ID:
Container:
Job ID:
Parcel:
P.O.

Trans Type: 200 - Commercial
Destin: 700 - Barstow LF
Disaster:

Origins:
439 - Yermo -100 %

	Lbs	Tons	Scale
Gross:	46320	23.16	1
Tare:	41840	20.92	1
NET:	**4480**	**2.24**	

Materials:
100 - Trash $105.84
2.24 TN @ $$47.25/TN
400 - CD-AB939 Recycle $26.88
2.24 TN @ $$12.00/TN
Perchlorate Surcharge: $1.55 @ $0.69/TN

TOTAL FEE: $134.27

Payment Method(s):

Paid Bill 134.27 N:
A:

Charge $134.27

Change: $0.00

Account Balance: 0.00

Name: RICARDO RIUZ
Sign:



164533

American Integrated Services, Inc.

P.O. BOX 92316 LONG BEACH, CA. 90809
Office 310-522-1168 Fax 310-522-1182
24 Hour Emergency Hotline 888-423-6060

TRANSPORTATION WORK ORDER

CUSTOMER NAME: TRIPOINT CONSTRUCTION	JOB # 42079	DATE:
JOBSITE: YERMO YARD		CONTACT:
ADDRESS:		CUSTOMER P.O.:
CITY: YERMO, CA		

EQUIPMENT:	Manifest# :	Disposal Location:
☐ LOWBOY ☐ ROLL – OFF ☐ BOX VAN ☐ ~~VAC~~ TRUCK ☐ STAKE BED ☐ _____ TRUCK # 563 TRAILER # 21BT	Ø2398210GJJK	WORLD OIL

Bin #:	Pickup / Deliver √	Return / Destination √	BIN LINERS: ☐ USED __How many ☐ NOT USED
			Tarps: ☐ Yes ☐ No

On Site Start	On Site Stop	DESCRIPTION
Ø815	1015	ON SITE - LOAD VAC TANKER
1315	1445	OFF LOAD

REPORTING TIME	ENDING TIME	TOTAL TIME	DEDUCTIBLE TIME	NET TIME
Ø6ØØ	18ØØ	12	.5	11.5

X Cesar L.
DRIVER

X
CUSTOMER SIGNATURE

White - Billing • Green - Time Sheet • Yellow - Office • Pink - Driver • Gold - Customer

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
			023982106 JJK

GENERATOR

5. Generator's Name and Mailing Address

Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1.			495		
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month 5 — Day 16 — Year 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month 05 — Day 16 — Year 23

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H039			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month 05 — Day 16 — Year 23

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

TRANSPORTER COPY

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **402392**
Date: 5/16/2023
Time: 13:16:49 - 14:38:29

Hauler: AMERICAN INTEGRATED SERVICES - AMI
Truck: 603
Trailer: 218
Driver: CESAR

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Gross: 80560 lb In Scale DK SC
Tare: 40500 lb Out Scale DK SC
Net: 40060 lb
Tons: 20.03
Barrels: 114.86 4824 / 48
Wash Out: Cold
Gallons: 70
Minutes: 15

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 512688
W/P: No

PO:
Load Gallons: 4,950

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	72.00	Halides:	Non App
Gravity:	10.40	Sediment:	1.00	Actual Halides:	0
pH:	7.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
023982106JJK

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

WORLD OIL.

INVOICE

DeMenno Kerdoon
dba World Oil Recycling
9302 Garfield Avenue
South Gate CA 90280

BILL TO:

AMERICAN INTEGRATED SERVICES - AME002
EMAIL INV: AISAP@americanintegrated.com
P.O. BOX 92316
LONG BEACH CA 90809

Customer Number: 6567
E-mail Inv.: AISAP@americanintegrated.com

Invoice #: I400-00113979
Date : 5/24/2023
PO # : 42079
Terms : Net 30
Due Date : 6/23/2023
Quote # :
Order # : S400-00114002
Salesperson : Tony Snyder

CREDIT CARD ON FILE

Quantity	UOM	Item	Description	Unit Price	Amount
4,824	GAL	C1	C1 BASE CHARGE HAZ OILY WATER 402392 5/16/2023	$0.88	$4,245.12
48	GAL	SOLIDSH	SOLIDS SURCHARGE - HAZ	$3.28	$157.44
4,402.56	EA	16E	16% ENVIRONMENTAL SURCHARGE	$0.16	$704.41
1	EA	COLD	COLD TRUCK WASHOUT FEE 402392 5/16/2023	$300.00	$300.00
1	EA	EMS	EMANIFEST EPA FEE & ADMIN - SITE SPECIFIC MANIFESTS	$25.00	$25.00

Notes: 1 UNION PACIFIC AVE., YERMO CA 92398

Manifest #: / Date 023982106JJK 5/16/2023
UPRR

Subtotal $5,431.97
Tax Total $0.00
Total $5,431.97

REMIT PAYMENT TO:
WORLD OIL RECYCLING
MAILSTOP - MS131
PO BOX 989746
WEST SACRAMENTO, CA 95798

For your convenience, we accept Visa, MasterCard, American Express and Discover!
To access your account, please visit our portal at https://myaccount.worldoilcorp.com
For billing questions contact us at ar@worldoilcorp.com or call us at (562) 231-1550.

THANK YOU FOR YOUR BUSINESS

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **402392**
Date: 5/16/2023
Time: 13:16:49 - 14:38:29

Hauler: AMERICAN INTEGRATED SERVICES - AMI
Truck: 603
Trailer: 218
Driver: CESAR

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Gross: 80560 lb In Scale DK S(
Tare: 40500 lb Out Scale DK S(
Net: 40060 lb
Tons: 20.03
Barrels: 114.86 4824 / 48
Wash Out: Cold
Gallons: 70
Minutes: 15

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 512688
W/P: No

PO:
Load Gallons: 4,950

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	72.00	Halides:	Non App
Gravity:	10.40	Sediment:	1.00	Actual Halides:	0
pH:	7.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
023982106JJK

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAR000280321
2. Page 1 of: 1
3. Emergency Response Phone: 888-877-7267
4. Manifest Tracking Number: 023982106 JJK

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Att: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Ave.
Yermo CA 92398

6. Transporter 1 Company Name: American Integrated Services, Inc.
U.S. EPA ID Number: CAR000148338

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CAT080013352

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-RCRA Hazardous Waste, Liquid (Diesel w/ Rinsate)	001	TT	4950	G	223
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate.
9b.1. Profile Number: 512533 AIS Job#: 42079 WR#13399

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month: 5 Day: 16 Year: 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CESAR ZORRILLA
Signature:
Month: 05 Day: 16 Year: 23
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H039 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: SOPHAL P. SRAY
Signature:
Month: 05 Day: 16 Year: 23

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

SB Industrial Vacuum Services, Inc

PO Box 310097
Fontana, CA 92331
(562)824-3845

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

BILL TO
American Integrated Services
Po Box 92316
Long Beach, Ca 90809 US

Received
Maria Reyes
6/19/2023 4:11:18 PM

INVOICE	32043
DATE	06/07/2023
TERMS	Net 30
DUE DATE	07/07/2023

PO NUMBER
42079

DATE	SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
06/01/2023	Vacuum Truck ST	Pump load from lift station and transport load to World Oil Hours	8	130.00	1,040.00
06/01/2023	Vacuum Truck OT	Hours	3	145.00	435.00

Contact SB Industrial Vacuum Services, Inc to pay.

BALANCE DUE **$1,475.00**

Terms: Net cash due and payable in full 30 days after the date of invoice, delinquent after 35 days, and subject to C.O.D. After 45 days, A monthly late charge of 1-1.5% shall be applied to all delinquent accounts.

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

SB INDUSTRIAL VACUUM SERVICES INC
P.O. Box 310097 Fontana, CA 92331
(562) 824-3845 • Fax (909) 823-0826

Date: 6-1-23

Work Order Number: 32043

Customer Name:			Bill To:		
American Integrated Services					
Address:			Address:		
37349 Marine Rd.					
City:	State:	Zip:	City:	State:	Zip:
Yermo	CA	92398			
Site Contact	PO #		Requested By		
	42079				

Unit Number: 517/VT 113 Starting Mileage: _____ Ending Mileage: _____ **Total:** _____

Pre-Trip/Start Time: 5:00am		Depart From: SB Yard		Arrive At: American I.	
		Time: 5:24am		Time: 7:20am	
		Depart From: American I.		Arrive At: SB Yard	
		Time: 1:05pm		Time: 4:10pm	(11 hrs)
06/02/23 Start @ 4 am		Depart From: SB Yard		Arrive At: World Oil	
		Time: 4:23am		Time: 6:15am	
		Depart From: World Oil		Arrive At:	
		Time: 10:56am		Time:	
		Depart From:		Arrive At:	
		Time:		Time:	
		Depart From:		Post Trip/Stop Time:	SB Yard 1PM
		Time:			

Work Completed (Scope of work): Pumped from multiple Sump locations Pumped from Reservoir Tank. [redacted]

Total Trip Time: 9 hrs.

Detailed Notes: _____

Misc. / Equipment: _____

Material: _____ **Quantity:** 5000 ~~Gallons~~ ☐ Yards ☐ Tons

Manifest No: _____ **Bin #:** _____ **Placards:** ☐ Yes ☐ No **Class** _____

Disposal Site: _____ **Wash Out:** ☐ Yes ☐ No Richard Satterfield
Driver's Name

TERMS: Net Cash Due and payable in full 30 days after the date of invoices, delinquent after 35 days, and subject to C.O.D. after 45 days, a LATE CHARGE of 1-1/2 % per month shall be applied to all delinquent accounts Failure to pay shall allow SB Environmental Logistics, to charge all the cost of collection, including reasonable attorney fees and commissions whether incurred prejudgment or post judgement.

It is Generator's responsibility to correctly identify chemical composition. If material is rejected by disposal site, generator agrees to pay all testing & transportation charges.

Please Print Name: Martin Ramos

Signed By: MR *Date:* 06-1-23

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CAR000280321	1	888-877-7267	023982124 JJK

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Att: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd.
Yermo CA 92398

6. Transporter 1 Company Name
SB Industrial Vacuum Services Inc.
U.S. EPA ID Number: CAL000466492

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CAT080013352

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1 Non-RCRA Hazardous Waste, Liquid (Diesel w/ Rinsate)	001	TT		G	223
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate.

9b.1. Profile Number: 512533 AI3 Job#: 42079 WR#13399

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month / Day / Year:

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name / Signature / Month / Day / Year

Transporter 2 Printed/Typed Name / Signature / Month / Day / Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) / Month / Day / Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name / Signature / Month / Day / Year

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CAR000280321	1	800-877-7267	0540622

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester, OH 45069
Attn: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd
Yermo, CA 92398

6. Transporter 1 Company Name
SS Industrial Vacuum Services Inc

U.S. EPA ID Number
CALD004864192

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton, CA 90222
Facility's Phone: 310 537-7100

U.S. EPA ID Number
CAT080013352

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	Non-Hazardous Waste, Liquid (Oily Water)	001	TT	5,000	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate. Bill to AIS

1. Profile Number: 505070 AIS Job Number: 42079 WR# 13399

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month: 6 Day: 1 Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Richard Satterfield
Signature:
Month: 6 Day: 1 Year: 23

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SOPHAL P. SIAY
Signature:
Month: 06 Day: 02 Year: 23

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #1

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **403817**
Date: 6/2/2023
Time: 06:17:34 - 10:52:46

Hauler: SB INDUSTRIAL VACUUM SERVICES
Truck: 517
Trailer: VT-133
Driver: RICHARD

Gross: 64440 lb In Scale DK S(
Tare: 37520 lb Out Scale DK S(
Net: 26920 lb
Tons: 13.46
Barrels: 77.29 3246 / 32
Wash Out: Non App
Gallons: 0
Minutes: 0

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 516842
W/P: No

PO:
Load Gallons: 5,000

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	68.00	Halides:	Non App
Gravity:	10.60	Sediment:	1.00	Actual Halides:	0
pH:	6.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
NH0540622

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

DAILY JOB BRIEFING

Group; Tri Point | **TSC Focus**; Booms/Powerlines | **Subdivision**; Cima

Injury Free Days; EVERYDAY

EMERGENCY CONTACT INFO

ERP Location; EIC, Jason	First Aid Kit; Office, Company Trucks	AED Location; UP Offices

911 On Disp Channel 40-40, Tone; *12 Or Cell | Emergency Meeting Location; Compound

Hospital; Barstow Community Hosp. 555 S. 7th Ave. Barstow, Ca. 92311 Phone; 760.256.1761

Rules, And Other Additional Info

Day of Week	Sat	Sun	Mon	Tue	Wed	Thu	Fri	
Weather Forecast						91		
Heat Index						Low		
Fire Danger						Low		
Fire Risk Score						40		
Noon								
Critical Rule	1.13	2.0	2.21	42.6	74.6.1	74.3	74.5	
BELLCAPP	Communication	Pinch point	Eyes on Path	Line of fire	Ascending	Body position	Lifting, Lowering	
Focus Rule	76.3	70.7	70.6	74.0	80.2	75.2	80.6	

Specific Tools, Material, PPE, and potential Hazards: Blind Spots, Inspect your PPE, Eqmt, tools, & Vehicle before each use. Taglines, Secondary Job Brief, LOTO, Back Up Moves, Pinch Points, Seat Belts

Equipment Spacing and Work Zones: 15' Around Equipment, 15' plus Boom Radius for Cranes

How will Personnel be notified of approaching train: Radio, Horn, Verbal, Tapping of Hard Hat

Where will personnel clear for passing train(s): 25 feet away from track on the Field Side

No Smoking on UPRR property. No Cell Phone use within 25' from live track or while Driving or Operating Equipment

Work Being Performed:

Hot Work??	Are your dig tickets current?	BELLCAPP

REDZONE RISK ASSESMENT

Is anyone at Risk of.....?

- Being in vehicle accident
- Being struck by a train on the track being occupied
- Being struck by a train on an adjacent track
- Being struck or caught between on/off track equipment
- Being struck by a motorist at a crossing or on a public road
- Being struck by material being handled by equipment
- Being electrocuted by booms getting into power lines or physical contact with energized lines
- Falling from bridge or elevated structure
- Other life threatening risks: Mental Vacations, Heat stress

What are your plans for eliminating or minimizing these LIFE THREATENING risks? Do not foul trk 202 yard trk Dont foul Military trk unless have to, Check In/Out of Form B if you are within 25 ft of track, Stay Hydrated

Roadway Worker Protection (RWP) / CEB 136 On-Track Safety (OTS)								
Type of OTS = / FORM B / TRACK & TIME / FOUL TIME / LOOKOUT								
UP Flagger;						Radio – Tri Point – Channel 4		
Elvis Tsosie Disp Channel; 40-40 Tone; *12								
928.225.7292								
Day of Week	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	
(A) Form B #						65550		
OK'd @						1604		
Time Verified						513		
(B) Form B #						65549		
OK'd @						1604		
Time Verified						514		
Disp Initials						MAG		

(A) Line(s)_1_ Track # 1 on the Cima Subdivision From 0600 Until 1700

(B) Line(s)_1_ Track # 2 on the Cima Subdivision From 0600 Until 1700

Limits From MP: 161.75 to MP 162.07

Form C#

Track and Time

T/T #_____ **TO:** _____ (Behind) _____

C.P._____Track_____ Switch Y / N C.P._____Track_____ Switch Y / N

Joint Y / N : With_____Blocked Until : _____ OK Time : _____ Disp: _____

T/T #_____ **TO:** _____ (Behind) _____

C.P._____Track_____ Switch Y / N C.P._____Track_____ Switch Y / N

Joint Y / N : With_____Blocked Until : _____ OK Time : _____ Disp: _____

SB Industrial Vacuum Services, Inc

PO Box 310097
Fontana, CA 92331
(562)824-3845

Received
Maria Reyes
6/19/2023 4:49:00 PM

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

BILL TO
American Integrated Services
Po Box 92316
Long Beach, Ca 90809 US

INVOICE	32043-2
DATE	06/07/2023
TERMS	Net 30
DUE DATE	07/07/2023

PO NUMBER
42079

DATE	SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
06/02/2023	Vacuum Truck ST	Pump load from lift station and transport load to World Oil Hours	8	130.00	1,040.00
06/02/2023	Vacuum Truck OT		1	135.00	135.00

Contact SB Industrial Vacuum Services, Inc to pay.

BALANCE DUE **$1,175.00**

Terms: Net cash due and payable in full 30 days after the date of invoice, delinquent after 35 days, and subject to C.O.D. After 45 days, A monthly late charge of 1-1.5% shall be applied to all delinquent accounts.

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

SB INDUSTRIAL VACUUM SERVICES INC
P.O. Box 310097 Fontana, CA 92331
(562) 824-3845 • Fax (909) 823-0826

Date: 6-1-23

Work Order Number: 32043

Customer Name:			Bill To:		
American Integrated Services					
Address:			Address:		
37349 Marine Rd.					
City:	State:	Zip:	City:	State:	Zip:
Yermo	CA	92398			
Site Contact	PO #		Requested By		
	42079				

Unit Number: 517/VT 113 Starting Mileage: _____ Ending Mileage: _____ **Total:** _____

Pre-Trip/Start Time: 5:00am		Depart From: SB Yard		Arrive At: American I.	
		Time: 5:24am		Time: 7:20am	
		Depart From: American I.		Arrive At: SB Yard	
		Time: 1:05pm		Time: 4:10pm	(11 hrs)
06/02/23 Start @ 4 am		Depart From: SB Yard		Arrive At: World Oil	
		Time: 4:23am		Time: 6:15am	
		Depart From: World Oil		Arrive At:	
		Time: 10:56am		Time:	
		Depart From:		Arrive At:	
		Time:		Time:	
		Depart From:		Post Trip/Stop Time:	SB Yard 1PM
		Time:			

Work Completed (Scope of work): Pumped from multiple Sump locations Pumped from Reservoir Tank. [redacted]

Total Trip Time: 9 hrs.

Detailed Notes: _____

Misc. / Equipment: _____

Material: _____ **Quantity:** 5000 ~~Gallons~~ ☐ Yards ☐ Tons

Manifest No: _____ **Bin #:** _____ **Placards:** ☐ Yes ☐ No **Class** _____

Disposal Site: _____ **Wash Out:** ☐ Yes ☐ No Richard Satterfield
Driver's Name

TERMS: Net Cash Due and payable in full 30 days after the date of invoices, delinquent after 35 days, and subject to C.O.D. after 45 days, a LATE CHARGE of 1-1/2 % per month shall be applied to all delinquent accounts Failure to pay shall allow SB Environmental Logistics, to charge all the cost of collection, including reasonable attorney fees and commissions whether incurred prejudgment or post judgement.

It is Generator's responsibility to correctly identify chemical composition. If material is rejected by disposal site, generator agrees to pay all testing & transportation charges.

Please Print Name: Martin Ramos

Signed By: MR *Date:* 06-1-23

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CAR000280321	1	888-877-7267	023982124 JJK

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Att: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd.
Yermo CA 92398

6. Transporter 1 Company Name
SB Industrial Vacuum Services Inc.
U.S. EPA ID Number: CAL000466492

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CAT080013352

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1 Non-RCRA Hazardous Waste, Liquid (Diesel w/ Rinsate)	001	TT		G	223
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate.

9b.1. Profile Number: 512533 AI3 Job#: 42079 WR#13399

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month / Day / Year:

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name / Signature / Month / Day / Year

Transporter 2 Printed/Typed Name / Signature / Month / Day / Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) / Month / Day / Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name / Signature / Month / Day / Year

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CAR000280321	1	800-877-7267	0540622

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester, OH 45069
Attn: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd
Yermo, CA 92398

6. Transporter 1 Company Name
SS Industrial Vacuum Services Inc

U.S. EPA ID Number
CALD004864192

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton, CA 90222
Facility's Phone: 310 537-7100

U.S. EPA ID Number
CAT080013352

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	Non-Hazardous Waste, Liquid (Oily Water)	001	TT	5,000	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate. Bill to AIS

1. Profile Number: 505070 AIS Job Number: 42079 WR# 13399

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month: 6 Day: 1 Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Richard Satterfield
Signature:
Month: 6 Day: 1 Year: 23

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SOPHAL P. SIAY
Signature:
Month: 06 Day: 02 Year: 23

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #1

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **403817**
Date: 6/2/2023
Time: 06:17:34 - 10:52:46

Hauler: SB INDUSTRIAL VACUUM SERVICES
Truck: 517
Trailer: VT-133
Driver: RICHARD

Gross: 64440 lb In Scale DK S(
Tare: 37520 lb Out Scale DK S(
Net: 26920 lb
Tons: 13.46
Barrels: 77.29 3246 / 32
Wash Out: Non App
Gallons: 0
Minutes: 0

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 516842
W/P: No

PO:
Load Gallons: 5,000

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	68.00	Halides:	Non App
Gravity:	10.60	Sediment:	1.00	Actual Halides:	0
pH:	6.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
NH0540622

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

DAILY JOB BRIEFING

Group; Tri Point | **TSC Focus**; Booms/Powerlines | **Subdivision**; Cima

Injury Free Days; EVERYDAY

EMERGENCY CONTACT INFO

ERP Location; EIC, Jason	First Aid Kit; Office, Company Trucks	AED Location; UP Offices

911 On Disp Channel 40-40, Tone; *12 Or Cell | Emergency Meeting Location; Compound

Hospital; Barstow Community Hosp. 555 S. 7th Ave. Barstow, Ca. 92311 Phone; 760.256.1761

Rules, And Other Additional Info

Day of Week	Sat	Sun	Mon	Tue	Wed	Thu	Fri	
Weather Forecast						91		
Heat Index						Low		
Fire Danger						Low		
Fire Risk Score						40		
Noon								
Critical Rule	1.13	2.0	2.21	42.6	74.6.1	74.3	74.5	
BELLCAPP	Communication	Pinch point	Eyes on Path	Line of fire	Ascending	Body position	Lifting, Lowering	
Focus Rule	76.3	70.7	70.6	74.0	80.2	75.2	80.6	

Specific Tools, Material, PPE, and potential Hazards: Blind Spots, Inspect your PPE, Eqmt, tools, & Vehicle before each use. Taglines, Secondary Job Brief, LOTO, Back Up Moves, Pinch Points, Seat Belts

Equipment Spacing and Work Zones: 15' Around Equipment, 15' plus Boom Radius for Cranes

How will Personnel be notified of approaching train: Radio, Horn, Verbal, Tapping of Hard Hat

Where will personnel clear for passing train(s): 25 feet away from track on the Field Side

No Smoking on UPRR property. No Cell Phone use within 25' from live track or while Driving or Operating Equipment

Work Being Performed:

Hot Work??	Are your dig tickets current?	BELLCAPP

REDZONE RISK ASSESMENT

Is anyone at Risk of.....?

- Being in vehicle accident
- Being struck by a train on the track being occupied
- Being struck by a train on an adjacent track
- Being struck or caught between on/off track equipment
- Being struck by a motorist at a crossing or on a public road
- Being struck by material being handled by equipment
- Being electrocuted by booms getting into power lines or physical contact with energized lines
- Falling from bridge or elevated structure
- Other life threatening risks: Mental Vacations, Heat stress

What are your plans for eliminating or minimizing these LIFE THREATENING risks? Do not foul trk 202 yard trk Dont foul Military trk unless have to, Check In/Out of Form B if you are within 25 ft of track, Stay Hydrated

Roadway Worker Protection (RWP) / CEB 136 On-Track Safety (OTS)								
Type of OTS = / FORM B / TRACK & TIME / FOUL TIME / LOOKOUT								
UP Flagger;						Radio – Tri Point – Channel 4		
Elvis Tsosie Disp Channel; 40-40 Tone; *12								
928.225.7292								
Day of Week	**Sat**	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	
(A) Form B #						65550		
OK'd @						1604		
Time Verified						513		
(B) Form B #						65549		
OK'd @						1604		
Time Verified						514		
Disp Initials						MAG		

(A) Line(s)_1_ Track # 1 on the Cima Subdivision From 0600 Until 1700

(B) Line(s)_1_ Track # 2 on the Cima Subdivision From 0600 Until 1700

Limits From MP: 161.75 to MP 162.07

Form C#

Track and Time

T/T #_____ **TO:** _____ (Behind) _____

C.P._____Track_____ Switch Y / N C.P._____Track_____ Switch Y / N

Joint Y / N : With_____Blocked Until : _____ OK Time : _____ Disp: _____

T/T #_____ **TO:** _____ (Behind) _____

C.P._____Track_____ Switch Y / N C.P._____Track_____ Switch Y / N

Joint Y / N : With_____Blocked Until : _____ OK Time : _____ Disp: _____

WORLD OIL.

INVOICE

DeMenno Kerdoon
dba World Oil Recycling
9302 Garfield Avenue
South Gate CA 90280

BILL TO:

AMERICAN INTEGRATED SERVICES - AME002
EMAIL INV: AISAP@americanintegrated.com
P.O. BOX 92316
LONG BEACH CA 90809

Customer Number: 6567
E-mail Inv.: AISAP@americanintegrated.com

Invoice #: I400-00114680
Date : 6/14/2023
PO # : 42079
Terms : Net 30
Due Date : 7/14/2023
Quote # :
Order # : S400-00114722
Salesperson : Tony Snyder

CREDIT CARD ON FILE

Quantity	UOM	Item	Description	Unit Price	Amount
4,288	GAL	C1NON	C1 OILY WATER NON HAZARDOUS 403815 6/2/2023	$0.37	$1,586.56
43	GAL	SOLIDSN	SOLIDS SURCHARGE - NON HAZ	$1.65	$70.95
1,657.51	EA	16E	16% ENVIRONMENTAL SURCHARGE	$0.16	$265.20
1	EA	COLD	COLD TRUCK WASHOUT FEE 403815 6/2/2023	$300.00	$300.00

Notes: 1 UNION PACIFIC RD., YERMO CA 92398

Manifest #: / Date NH-0540621 6/2/2023
UPRR

Subtotal	$2,222.71
Tax Total	$0.00
Total	$2,222.71

REMIT PAYMENT TO:
WORLD OIL RECYCLING
MAILSTOP - MS131
PO BOX 989746
WEST SACRAMENTO, CA 95798

For your convenience, we accept Visa, MasterCard, American Express and Discover!
To access your account, please visit our portal at https://myaccount.worldoilcorp.com
For billing questions contact us at ar@worldoilcorp.com or call us at (562) 231-1550.

THANK YOU FOR YOUR BUSINESS

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **403815**
Date: 6/2/2023
Time: 06:13:20 - 10:37:11

Hauler: SB INDUSTRIAL VACUUM SERVICES
Truck: 508
Trailer: 108
Driver: LUIS

Gross: 70400 lb In Scale DK S(
Tare: 34840 lb Out Scale DK S(
Net: 35560 lb
Tons: 17.78
Barrels: 102.10

4288 / 43

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Wash Out: Cold
Gallons: 100
Minutes: 20

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 516842
W/P: Yes

PO:
Load Gallons: 5,000

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	68.00	Halides:	<100
Gravity:	10.60	Sediment:	1.00	Actual Halides:	0
pH:	6.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
NH0540621

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number CAR000260321	2. Page 1 of 1	3. Emergency Response Phone 888-877-7267	4. Waste Tracking Number 0540621

GENERATOR

5. Generator's Name and Mailing Address
UPRR-VWM c/o GHD
Attn: Manifest Receiving
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd.
Yermo CA 92398

6. Transporter 1 Company Name: SB Industrial Vacuum Services Inc.
U.S. EPA ID Number: CAL000466492

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CAT080013352

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	Non-Hazardous Waste, Liquid (Oily Water)	001	TT	5000	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate. Bill to AIS

1.Profile Number: 505070 AIS Job Number: 42079 WR# 13399

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month 6 Day 01 Year 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Luis Salinas
Signature:
Month 6 Day 01 Year 23

Transporter 2 Printed/Typed Name:
Signature:
Month 6 Day 01 Year 23

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SOPHAL P. SVAY
Signature:
Month 06 Day 02 Year 23

WORLD OIL RECYCLING

GENERATOR'S WASTE PROFILE WORKSHEET

WORLD OIL RECYCLING'S LABORATORY IS CERTIFIED BY THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM (ELAP) CERT. # 2037

PROFILE # 516842

CUSTOMER SAMPLE # _____

☒ TRUCK IN PLANT

☐ ADVANCE SAMPLE PROFILING

FOR WOR INTERNAL USE ONLY

GENERATOR'S NAME UPRR - MP

TRANSPORTER NAME SB INDUSTRIAL VACUUM SERVICES INC.

PHYSICAL CHARACTERISTICS

COLOR BROWN ODOR MILD SEDIMENT 1.0 %

pH 6.0 GRAVITY 10.6 °API BS & W 98.0 %

WATER SOLUBLE ____ yes ✓ no REACTIVITY NONE

PHYSICAL CHARACTERISTICS ACCEPTABLE - REFER TO LAB FOR COMPLETE PROFILING ☒

PHYSICAL CHARACTERISTICS UNACCEPTABLE - REJECT ☐

TESTED BY Ignacio / Louder DATE 06/02/23

CHEMICAL COMPOSITION OF WASTE

HALIDES

TOTAL HALIDES	<100	PPM
INORGANIC HALIDES		PPM
ORGANIC HALIDES		PPM

PCB'S <2.0 PPM

INORGANIC

ELEMENT		
CADMIUM	<2.0	PPM
CHROMIUM	<2.0	PPM
LEAD	<2.0	PPM
		PPM
		PPM
		PPM

ADDITIONAL ANALYSIS PER REQUEST

COMMENTS

C-1

SUBMITTED BY Ignacio Martinez TITLE Group Leader DATE 06/02/23

FORM NO. 1001 REV. 4-15-08, 6-1-17

SB Industrial Vacuum Services, Inc

PO Box 310097
Fontana, CA 92331
(562)824-3845

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

BILL TO
American Integrated Services
Po Box 92316
Long Beach, Ca 90809 US

Received
Maria Reyes
6/19/2023 4:13:12 PM

INVOICE	32257
DATE	06/07/2023
TERMS	Net 30
DUE DATE	07/07/2023

PO NUMBER
42079

DATE	SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
06/01/2023	Vacuum Truck ST	Pump load from lift station and transport load to World Oil Hours	8	130.00	1,040.00
06/01/2023	Vacuum Truck OT	Hours	3.50	145.00	507.50

Contact SB Industrial Vacuum Services, Inc to pay.

BALANCE DUE **$1,547.50**

Terms: Net cash due and payable in full 30 days after the date of invoice, delinquent after 35 days, and subject to C.O.D. After 45 days. A monthly late charge of 1-1.5% shall be applied to all delinquent accounts.

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

SB INDUSTRIAL VACUUM SERVICES INC
P.O. Box 310097 Fontana, CA 92331
(562) 824-3845 • Fax (909) 823-0826

Date: 6-01-23

Work Order Number: 32257

Customer Name: AIS			Bill To:		
Address: 1502 E. Opp st			Address:		
City: Los Angeles	State: CA	Zip: 90744	City:	State:	Zip:
Site Contact: Robert	PO #: #42079		Requested By		

Unit Number: 508/108 Starting Mileage: _____ Ending Mileage: _____ **Total:** _____

Pre-Trip/Start Time: yard	5:00	Depart From: yard	Time: 5:30	Arrive At: AIS Bloomington	Time: 6:11
		Depart From: AIS Bloomington	Time: 6:20	Arrive At: UPRR Yermo	Time: 8:39
Pre load		Depart From: UPRR Yermo	Time: 1:03	Arrive At: SB yard	Time: 4:10
		Depart From:	Time:	Arrive At:	Time:
		Depart From:	Time:	Arrive At:	Time:
		Depart From:	Time:	Post Trip/Stop Time:	4:10 4:30

Work Completed (Scope of work): Pump & vac'd waste Total Trip Time: 11 1/2

Tanker and Underground Pit's

Detailed Notes: _____

Misc. / Equipment: _____

Material: waste liquid **Quantity:** 5000 ☒ Gallons ☐ Yards ☐ Tons

Manifest No: _____ **Bin #:** _____ **Placards:** ☐ Yes ☐ No **Class** _____

Disposal Site: _____ **Wash Out:** ☐ Yes ☐ No Luis Rdays
Driver's Name

TERMS: Net Cash Due and payable in full 30 days after the date of invoices, delinquent after 35 days, and subject to C.O.D. after 45 days, a LATE CHARGE of 1-1/2 % per month shall be applied to all delinquent accounts Failure to pay shall allow SB Environmental Logistics, to charge all the cost of collection, including reasonable attorney fees and commissions whether incurred prejudgment or post judgement.

It is Generator's responsibility to correctly identify chemical composition. If material is rejected by disposal site, generator agrees to pay all testing & transportation charges.

Please Print Name: X Martin Ramos

Signed By: X Mr *Date:* X

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAR000280321
2. Page 1 of: 1
3. Emergency Response Phone: 888-877-7267
4. Waste Tracking Number: 0540621

GENERATOR

5. Generator's Name and Mailing Address
UPRR-WM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Att: Manifest Receiving
Generator's Phone: 562 490-7045

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd
Yermo CA 92398

6. Transporter 1 Company Name: SB Industrial Vacuum Services Inc
U.S. EPA ID Number: CAL000046892

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CAT080013352

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Waste, Liquid (Oily Water)	001	TT	5000	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate. Bill to AIS

1.Profile Number: 505070 AIS Job Number: 42079 WR# 13399

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month: 6 Day: 01 Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: X Luis Pedroza (SBIS)
Signature:
Month: 6 Day: 01 Year: 23

Transporter 2 Printed/Typed Name
Signature
Month: 6 Day: 01 Year: 23

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: RAPHAEL P. SVAY
Signature:
Month: 06 Day: 02 Year: 23

977 (Rev. 9/09)

TRANSPORTER #1

SB Industrial Vacuum Services, Inc

PO Box 310097
Fontana, CA 92331
(562)824-3845

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

Received
Maria Reyes
6/19/2023 4:10:21 PM

BILL TO
American Integrated Services
Po Box 92316
Long Beach, Ca 90809 US

INVOICE	32258
DATE	06/07/2023
TERMS	Net 30
DUE DATE	07/07/2023

PO NUMBER
42079

DATE	SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
06/02/2023	Vacuum Truck ST	Pump load from lift station and transport load to World Oil Hours	8	130.00	1,040.00
06/02/2023	Vacuum Truck OT	Hours	1.50	145.00	217.50

Contact SB Industrial Vacuum Services, Inc to pay.

BALANCE DUE **$1,257.50**

Terms: Net cash due and payable in full 30 days after the date of invoice, delinquent after 35 days, and subject to C.O.D. After 45 days, A monthly late charge of 1-1.5% shall be applied to all delinquent accounts.

SB INDUSTRIAL VACUUM SERVICES INC
ULTRA VAC
"THE AIRMOVERS SPECIALISTS"

SB INDUSTRIAL VACUUM SERVICES INC
P.O. Box 310097 Fontana, CA 92331
(562) 824-3845 • Fax (909) 823-0826

Date: 6-02-23

Work Order Number: 32258

Customer Name: 715			Bill To:		
Address: 1502 E. 01st st.			Address:		
City: Los Angeles	State: CA	Zip: 90744	City:	State:	Zip:
Site Contact: Robert	PO #: #42079		Requested By		

Unit Number: 504/108 Starting Mileage: _____ Ending Mileage: _____ **Total:** _____

Pre-Trip/Start Time: yard 4:00		Depart From: yard Time: 4:20		Arrive At: World Oil R. Time: 6:09	
		Depart From: World Oil Recycling Time: 10:39		Arrive At: SB yard Time: 1:20	
		Depart From: Time:		Arrive At: Time:	
		Depart From: Time:		Arrive At: Time:	
		Depart From: Time:		Arrive At: Time:	
		Depart From: Time:		Post Trip/Stop Time:	1:20 1:30

Work Completed (Scope of work): Transport full Tanker off load World Oil Recycling Clean Hose Material

Total Trip Time: 9 1/2

Detailed Notes:

Misc. / Equipment:

Material: Waste liquid **Quantity:** 4500 ☒ Gallons ☐ Yards ☐ Tons

Manifest No: _____ **Bin #:** _____ **Placards:** ☐ Yes ☐ No **Class** _____

Disposal Site: _____ **Wash Out:** ☐ Yes ☐ No Luis Relayo
Driver's Name

TERMS: Net Cash Due and payable in full 30 days after the date of invoices, delinquent after 35 days, and subject to C.O.D. after 45 days, a LATE CHARGE of 1-1/2 % per month shall be applied to all delinquent accounts Failure to pay shall allow SB Environmental Logistics, to charge all the cost of collection, including reasonable attorney fees and commissions whether incurred prejudgment or post judgement.

It is Generator's responsibility to correctly identify chemical composition. If material is rejected by disposal site, generator agrees to pay all testing & transportation charges.

Please Print Name: X

Signed By: X *Date:* X

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **403815**
Date: 6/2/2023
Time: 06:13:20 - 10:37:11

Hauler: SB INDUSTRIAL VACUUM SERVICES
Truck: 508
Trailer: 108

Driver: LUIS

Customer: AMERICAN INTEGRATED SERVICES - AME002

Product: OILY WATER

PO:

Load Gallons: 5,000

Gross: 70400 lb In Scale DK S(
Tare: 34840 lb Out Scale DK S(
Net: 35560 lb
Tons: 17.78

Barrels: 102.10

4288 / 43

Wash Out: Cold
Gallons: 100
Minutes: 20

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 516842
W/P: Yes

Lab Analysis

RECEIVING

BS&W:	98.00	API Temp:	68.00	Halides:	<100
Gravity:	10.60	Sediment:	1.00	Actual Halides:	0
pH:	6.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
NH0540621

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

WORLD OIL.

INVOICE

DeMenno Kerdoon
dba World Oil Recycling
9302 Garfield Avenue
South Gate CA 90280

BILL TO:

AMERICAN INTEGRATED SERVICES - AME002
EMAIL INV: AISAP@americanintegrated.com
P.O. BOX 92316
LONG BEACH CA 90809

Customer Number: 6567
E-mail Inv.: AISAP@americanintegrated.com

Invoice #: I400-00114683
Date : 6/14/2023
PO # : 505070
Terms : Net 30
Due Date : 7/14/2023
Quote # :
Order # : S400-00114727
Salesperson : Tony Snyder

CREDIT CARD ON FILE

Quantity	UOM	Item	Description	Unit Price	Amount
3,246	GAL	C1NON	C1 OILY WATER NON HAZARDOUS 403817 6/2/2023	$0.37	$1,201.02
32	GAL	SOLIDSN	SOLIDS SURCHARGE - NON HAZ	$1.65	$52.80
1,253.82	EA	16E	16% ENVIRONMENTAL SURCHARGE	$0.16	$200.61

Notes: 1 UNION PACIFIC RD., YERMO CA 92398

Manifest #: / Date NH-0540622 6/2/2023
UPRR

Subtotal	$1,454.43
Tax Total	$0.00
Total	$1,454.43

REMIT PAYMENT TO:
WORLD OIL RECYCLING
MAILSTOP - MS131
PO BOX 989746
WEST SACRAMENTO, CA 95798

For your convenience, we accept Visa, MasterCard, American Express and Discover!
To access your account, please visit our portal at https://myaccount.worldoilcorp.com
For billing questions contact us at ar@worldoilcorp.com or call us at (562) 231-1550.

THANK YOU FOR YOUR BUSINESS

World Oil Recycling
2000 N Alameda Street
Compton, CA 90222

Ticket: **403817**
Date: 6/2/2023
Time: 06:17:34 - 10:52:46

Hauler: SB INDUSTRIAL VACUUM SERVICES
Truck: 517
Trailer: VT-133
Driver: RICHARD

Gross: 64440 lb In Scale DK S(
Tare: 37520 lb Out Scale DK S(
Net: 26920 lb
Tons: 13.46
Barrels: 77.29 3246 / 32
Wash Out: Non App
Gallons: 0
Minutes: 0

Customer: AMERICAN INTEGRATED SERVICES - AME002
Product: OILY WATER

Tank: 2001
Tank 2: NA
Category: C-1
Profile: 516842
W/P: No

PO:
Load Gallons: 5,000

RECEIVING

Lab Analysis

BS&W:	98.00	API Temp:	68.00	Halides:	Non App
Gravity:	10.60	Sediment:	1.00	Actual Halides:	0
pH:	6.00	Flash Point:	0.00	Comment:	

Deputy Weighmaster In: Anthony Arzate
Deputy Weighmaster Out: Anthony Arzate

Manifest/BOL
NH0540622

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

To the fullest extent permitted by law, Hauler, Customer and Driver agree to indemnify, hold harmless and defend DeMenno-Kerdoon, d/b/a World Oil Recycling, its subsidiaries and affiliates, and its and their respective officers, directors, agents, employees, managers, members, partners, controlling and controlled persons, contractors, subcontractors, representatives, successors and assigns (collectively, the "World Parties") from and against any and all claims, demands, damages, fines, penalties, losses, causes of action, liabilities and judgments (collectively, "Claims") of every kind (including all expenses of litigation, court costs, and reasonable attorneys' fees) arising out of any negligent or wrongful act or omission Hauler, Customer and/or Driver, including, without limitation, Claims for damage to any property or injury to or death of any person (including, but not limited to, employees of Hauler or Customer). The foregoing indemnity will apply even if a Claim is based in part upon the joint or concurrent negligence or strict liability of any of the World Parties. Driver's receipt of this weigh ticket constitutes acceptance of these terms on behalf of Hauler, Customer and Driver

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CAR000280321	1	888-877-7267	0540622

GENERATOR

5. Generator's Name and Mailing Address
UPRR-VM c/o GHD
9100 Centre Pointe Drive, Suite 240
West Chester OH 45069
Generator's Phone: 562 490-7045

Att: Manifest Receiving

Generator's Site Address (if different than mailing address)
Union Pacific Railroad - UPRR
1 Union Pacific Rd.
Yermo CA 92398

6. Transporter 1 Company Name
SB Industrial Vacuum Services Inc.
U.S. EPA ID Number: CAL000466492

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
World Oil Recycling
2000 N. Alameda Street
Compton CA 90222
Facility's Phone: 310 537-7100
U.S. EPA ID Number: CATO800133352
Tractor S17
Trailer VT113

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	Non-Hazardous Waste, Liquid (Oily Water)	001	TT	5000	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Always Wear Appropriate PPE when handling waste. Weights or volume are approximate. Bill to AIS

1.Profile Number: 505070 AIS Job Number: 42079 WR# 13399

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Melissa Ibison as Agent for UPRR
Signature: Melissa Ibison
Month 6 Day 1 Year 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Richard Satterfield
Signature:
Month 6 Day 1 Year 23

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SOPHAL P. SIVAY
Signature:
Month 06 Day 02 Year 23

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

American Integrated Services, Inc.

93231

P.O. BOX 92316 LONG BEACH, CA. 90809
Office 310-522-1168 Fax 310-522-1182
24 Hour Emergency Hotline 888-423-6060

TRANSPORTATION WORK ORDER

CUSTOMER NAME: Tri Point Construction Services | **JOB #** 42079 | **DATE:** 6-22-23

JOBSITE: Yermo Yard | **CONTACT:**

ADDRESS: Jellico St. entrance & Marine Rd. | **CUSTOMER P.O.:**

CITY: Yermo, CA.

EQUIPMENT:
☐ LOWBOY
☒ ROLL – OFF ☐ BOX VAN
☐ VAC TRUCK ☐ STAKE BED
☐ _____

TRUCK # 563
TRAILER # 3666-T

Manifest# :	Disposal Location:
42079	Barstow

Bin #:	Pickup / Deliver √	Return / Destination √	BIN LINERS: ☐ USED ___How many ☐ NOT USED
Bin 112			Tarps: ☐ Yes ☐ No

On Site Start	On Site Stop	DESCRIPTION
0700	0730	Load preloaded bin transport to offload.
0800	0845	offload
0915	0930	return bin to jobsite

REPORTING TIME	ENDING TIME	TOTAL TIME	DEDUCTIBLE TIME	NET TIME
0500	1230	7.50	.50	7.00

Gerardo Barragan

X Gerardo Barragan
DRIVER

X
CUSTOMER SIGNATURE

White - Billing • Green - Time Sheet • Yellow - Office • Pink - Driver • Gold - Customer

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

SHIPPER NO. _____

CARRIER NO. 42079

DATE 6-22-23

American Integrated Services, Inc.

CARRIER SCAC

TO		FROM	
CONSIGNEE	Barstow Landfill	SHIPPER	Tri-point / Union Pacific Railroad - UPRR
	32553 Barstow Rd.		1 Union Pacific Rd.
STREET	Barstow CA 92311	STREET	Yermo, CA 92398
DESTINATION	STATE ZIP	ORIGIN	STATE ZIP

ROUTE: Follow Best Possible Route Plan to Designated Facility

VEHICLE NUMBER: 563 3166-T

U.S. DOT Hazmat Reg. No.

Number and Type of Packages	HM	Description of Articles	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
__ XCM		Trash/Debris BIN# 112 Account# 1411 Note: Bill Disposal to AIS 42079			

Remit COD to:
Address:
City: State: Zip:

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

COD AMT: $

TOTAL CHARGES: $

COD FEE: Prepaid ☐ Collect ☐ $

FREIGHT CHARGES: ☐ Prepaid ☐ Collect

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations; the Property described above, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation PER:

SHIPPER: M. I.	CARRIER: AIS
PER: Melissa Ibison on Behalf of UPRR	PER: Ernesto Barragan
	DATE: 6-22-23

EMERGENCY RESPONSE TELEPHONE NUMBER: (888) 877-7267

NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:

WEIGHT RECEIPT

- WARNING -
This Document is Heat-Sensitive!

County of San Bernardino
SOLID WASTE MANAGEMENT DIVISION
222 W Hospitality Lane/2nd Floor
San Bernardino, CA. 92415-0017

Trans #: **580256560**
Date: **06/22/23**
Loc: **58 /Barstow**

	Time	Operator	Lane
IN	08:12 AM	MM2	01
OUT	08:48 AM	MM2	01

Customer: American Integrated Service
Account: **001411**
Decal: **055077**
Vehicle ID:
Container:
Job ID:
Parcel:
P.O.

Trans Type: 200 - Commercial
Destin: 700 - Barstow LF
Disaster:

Origins:
439 - Yermo -100 %

	Lbs	Tons	Scale
Gross:	53700	26.85	1
Tare:	45640	22.82	(K)
NET:	**8060**	**4.03**	

Materials:
100 - Trash $190.42
4.03 TN @ $$47.25/TN
400 - CD-AB939 Recycle $48.36
4.03 TN @ $$12.00/TN
Perchlorate Surcharge: $2.78 @ $0.69/TN

TOTAL FEE: $241.56

Payment Method(s):

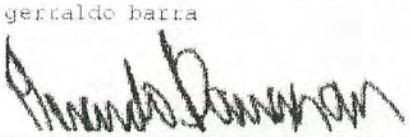
Paid Bill 241.56 N:
A:

Charge $241.56

Change: $0.00

Account Balance: 0.00

Name: gerraldo barra
Sign:



Reduce, Reuse, Recycle...

Appendix D

Est. 1988

Environmental Support Services

Environmental Research & Due Diligence Compliance
1521 Beaver Tan Court | Wake Forest, NC 27587
P) 949.429.3564 | F) 949.429.3563 | E) Shannon@EnvironmentalSupportServices.com
www.EnvironmentalSupportServices.com | EIN# 83-0533710

November 27, 2023

Project Name: Yermo

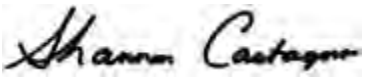
Geosyntec Consultants
2365 Northside Drive, Suite 150
San Diego, CA 92108

Attention: Victoria Severin-Marshall

Dear Ms. Severin-Marshall,

Attached is the Environmental (Hazardous/Toxic Waste) Records Search Summary of 37265 Yermo Road, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 ("Yermo") site located in Yermo, California. Environmental Support Services ("**ESS**") received the request on November 13, 2023 (See Appendix A). Should you have any questions regarding the summary, please call.

Sincerely,
Environmental Support Services



Shannon Castagno
Project Manager
Shannon@EnvironmentalSupportServices.com

Records Search Summary

Company:	Geosyntec Consultants
Project Name:	Yerno
Attention:	Victoria Severin-Marshall
Street Address of Property:	37265 Yermo Road Yermo, CA 92398 APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

San Bernardino County Fire Department

E-mailed request: 11-13-23, Contact: Public Records Request

ESS submitted a request for a records search concerning the San Bernardino site to the Public Records Request, with the San Bernardino County Fire Department (See Appendix B). **ESS** requested information concerning the utilization, manufacture, storage and/or discharge of hazardous materials/waste, and any information concerning previous or on-going site investigations/remediations pertaining to hazardous materials/waste. Christine Rivera, with that department informed **ESS** on November 14, 2023 that her department had no records for 37265 Yermo Road, Yermo, CA (See Appendix B).

Department of Toxic Substances Control (DTSC) – Cypress Office

E-mailed request: 11-13-23, Contact: Julie Chandler/Jone Barrio

Previous contacts with the DTSC have disclosed that this office only collects and stores information (such as treatment, storage and disposal of hazardous waste) concerning sites which have existing businesses, industries, etc. present. **ESS** requested that Ms. Chandler/Ms. Barrio, with the DTSC, check the file room records for any files/information concerning 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Appendix C). Ms. Chandler, with that department informed **ESS** on November 14, 2023 that her department had no files/information concerning that site (See Appendix C).

Department of Toxic Substances Control (DTSC) – Chatsworth Office

E-mailed request: 11-13-23, Contact: Robert Hardison

Previous contacts with the DTSC have disclosed that this office only collects and stores information (such as treatment, storage and disposal of hazardous waste) concerning sites which have existing businesses, industries, etc. present. **ESS** requested that Mr. Hardison, with the DTSC, check the file room records for any files/information concerning 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Appendix D). Joseph M von Teichert, with that department informed **ESS** on November 14, 2023 that his department had no files/information concerning that site (See Appendix D).

Cal Fire - Office of the State Fire Marshal

On-line request: 11-13-23, Contact: Public Records Request

ESS requested that the Public Records Section, with Cal Fire - Office of the State Fire Marshal, check their records concerning the storage of hazardous materials/waste, pipelines and underground storage tanks with regards to the following: 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Appendix E). Ashley Bradley, with that department informed **ESS** November 14, 2023 that her department had no records for 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Appendix E).

San Bernardino County Department of Public Works

On-line search: 11-13-23, Contact: Public Records Portal

ESS reviewed that the San Bernardino County Department of Public Works public records portal for any information concerning industrial waste discharge permits or violations for 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000. **ESS** found had no such records for 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000.

San Bernardino County Building Department

Previous communications with Rosie Griffith with the San Bernardino County Building Department have disclosed, for permits prior to 1987 and if you are not the property owner, you will need to provide a chain of title dating back to the date of the permit you are looking for (See Appendix F). Per Ms. Severin-Marshall at the Geosyntec Consultants office instructions, **ESS** did not obtain records from the San Bernardino County Building Department. **ESS** searched the San Bernardino County Building Department's online public records portal for records from 1987 to date and found had no such records for 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000. No further information concerning the site was obtained from the building department at the time of the investigation.

South Coast Air Quality Management District (SCAQMD)

On-line request: 11-13-23, Contact: Public Records Section

ESS submitted a search request concerning active, inactive and sold files 37265 Yermo Road, Yermo, CA to the Public Records Section at the SCAQMD (See Appendix G). Michelle Card, with that department informed **ESS** on November 15, 2023 that the site is not within her agency's jurisdiction and recommended **ESS** contact the Mojave Air Quality Management District (See Below) (See Appendix G). No further information concerning the site was obtained from the SCAQMD at the time of the investigation.

Mojave Air Quality Management District

On-line request: 11-15-23, Contact: Public Records Section

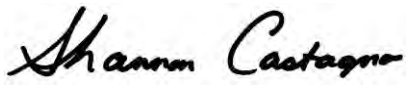
ESS submitted a search request concerning active, inactive and sold files 37265 Yermo Road, Yermo, CA to the Public Records Section at the Mojave Air Quality Management District (See Appendix H). Barbara Hayes, with that department informed **ESS** on November 16, 2023 that her department had no records for 37265 Yermo Road, Yermo, CA (See Appendix H). No further information concerning the site was obtained from the Mojave Air Quality Management District at the time of the investigation.

Regional Water Quality Control Board (RWQCB) – Lahontan Region

E-mailed request: 11-13-23, Contact: Public Records Section

ESS requested that the Public Records Section, with the RWQCB, provide the files for 37265 Yermo Road, Yermo, CA, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Appendix I). Silvia Flores, with that department informed **ESS** November 21, 2023 that all available records for APN 0537-071-19-0000, Yermo, CA are on the SMARTS database (See Appendix I). No further information concerning the site was obtained from the RWQCB at the time of the investigation.

Records Search completed by:



Shannon Castagno
Project Manager
Environmental Support Services

The information provided in this report was obtained by a comprehensive examination of public records, public information and public servant communications. The degree of care performed by **ESS** is equivalent to that exercised by environmental companies performing similar records searches.

Appendix A

Environmental (Hazardous/Toxic Waste) Records Search
Order Form

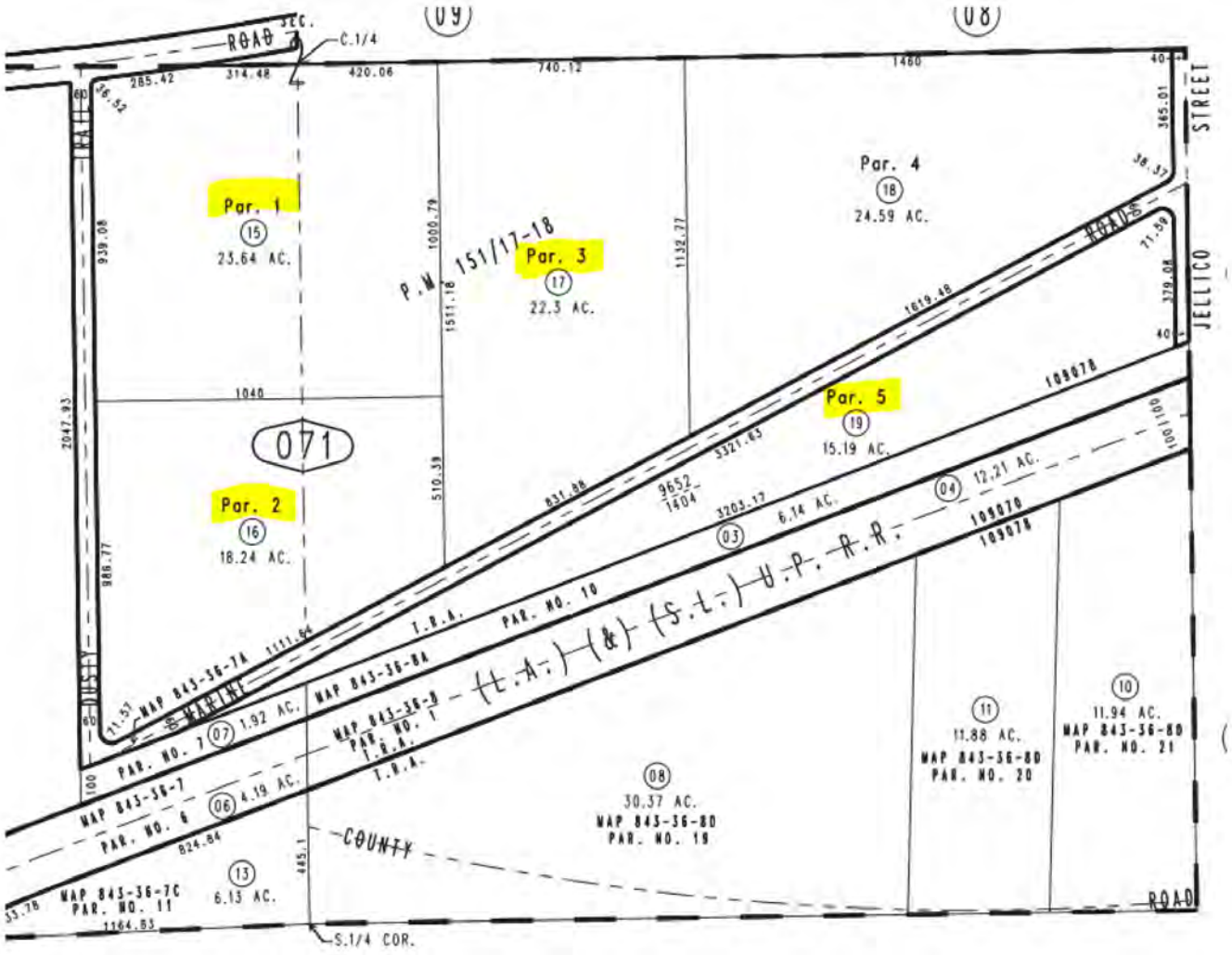
shannon environmentalsupportservices.com

From: Victoria Severin <VSeverin@Geosyntec.com>
Sent: Monday, November 13, 2023 11:39 AM
To: shannon environmentalsupportservices.com
Subject: Records Request - Yermo Road

Good morning Shannon,

I have another records request for you. The address on file is: 37265 Yermo Road, Yermo CA 92398. Additionally, the property compromises the parcels shown below (four parcels totaling approximately 80 acres: 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000).

If you can please contact the normal agencies that would be great. Thanks!



Best,

Victoria Severin-Marshall, GIT
Scientist
Geosyntec Consultants, Inc.
2365 Northside Drive, Suite 150

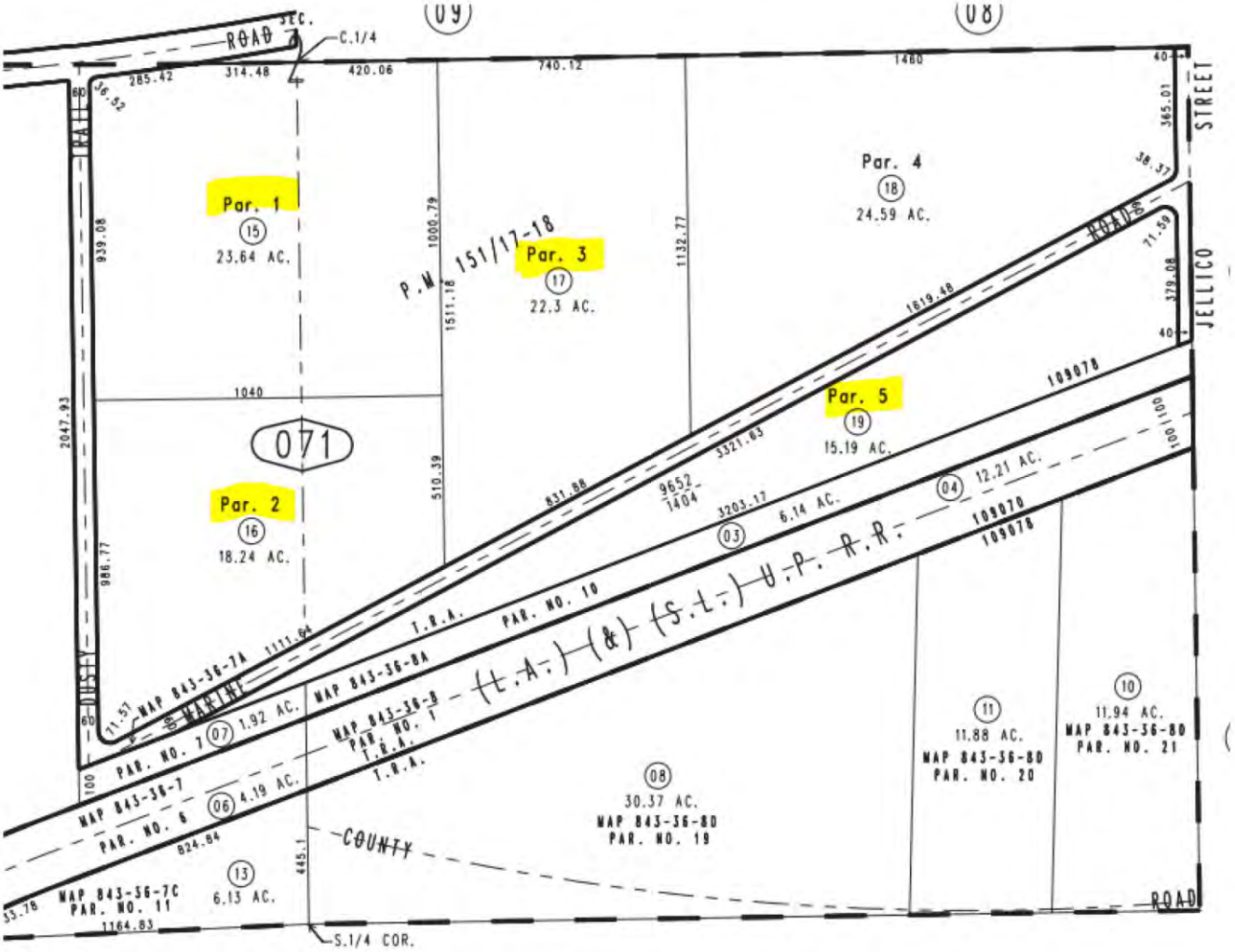
San Diego, CA 92108
Phone: 619.810.4002 Mobile: 909.560.2373

GEOSYNTEC | SIREM | SAVRON

Follow Us – LinkedIn | Twitter | Facebook | YouTube

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.




09
08
ROAD
Sec.
C.1/4
285.42
314.48
420.06
740.12
1480
365.01
STREET
JELLICO
Par. 1
15
23.64 AC.
Par. 3
17
22.3 AC.
Par. 4
18
24.59 AC.
P.M 151/17-18
939.08
1000.79
1511.18
1132.77
1619.48
379.08
1040
2047.93
071
Par. 2
16
18.24 AC.
Par. 5
19
15.19 AC.
510.39
831.88
9652
1404
5321.63
3203.17
6.14 AC.
03
04
12.21 AC.
109078
100
986.77
T.R.A.
PAR. NO. 10
MAP 843-36-7A
MAP 843-36-8A
MAP 843-36-8
PAR. NO. 1
T.R.A.
07
1.92 AC.
PAR. NO. 7
MAP 843-36-7
PAR. NO. 6
06
4.19 AC.
824.84
08
30.37 AC.
MAP 843-36-8D
PAR. NO. 19
11
11.88 AC.
MAP 843-36-8D
PAR. NO. 20
10
11.94 AC.
MAP 843-36-8D
PAR. NO. 21
COUNTY
ROAD
13
6.13 AC.
MAP 843-36-7C
PAR. NO. 11
1164.83
445.1
S.1/4 COR.

Appendix B

Request for Records Search to the
San Bernardino County Fire Department and
Response Obtained from that Agency

CUPA
San Bernardino County Fire Protection District • Hazardous Materials Division
620 S. E St., San Bernardino, CA 92415-0153 • (909) 386-8468 FAX (909) 386-8460
hazmatrecords@sbcfire.org

REQUEST FOR AN ENVIRONMENTAL AUDIT PHASE 1 CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT

The main focus of a REQUEST FOR AN ENVIRONMENTAL AUDIT PHASE 1 CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT is to determine whether there exists in San Bernardino County Fire Protection District (SBCFPD) any record relating to contamination or reports of spills at a particular site. An Environmental Phase 1 Certified Hazardous Materials Records Search Finding Report should reveal whether there are any facilities at the site that are subject to current or past regulatory activity by SBCFPD, such as underground storage tanks, hazardous material handlers, hazardous waste generators, and CalARP facilities, as well as any reports of spills, incidents, complaints, or cleanup activity, which can be a useful tool in providing a history of compliance or non-compliance.

Once SBCFPD has completed its records search, an Environmental Phase 1 Certified Hazardous Materials Records Search Finding Report will be prepared and issued. Such report will detail all SBCFPD records associated with a particular site by type, date, location, and status (where applicable). All files identified in an Environmental Phase 1 Certified Hazardous Materials Records Search Finding Report can be made available for copies and/or review upon request.

If the completed records search reveals no SBCFPD record of hazardous material activity at the site, an Environmental Phase 1 Certified Hazardous Materials Records Search Finding Report will be issued, noting that "no records" were identified.

Please provide a specific site address or location description. If a situs address does not exist or cannot be found, list another type of location identifier such as Assessor Parcel Number (preferable), cross streets or intersections (e.g., NWC 5th Ave. & Main St.), and/or legal description. If possible, please attach a map to this request form.

SITE INFORMATION		
Property Owner or Business Name	Location (Site Address and/or Assessor Parcel No.)	City/Community
	37265 Yermo Road	Yermo, CA 92389

Please provide your name, the company you represent, and contact information below.

REQUESTOR INFORMATION				
NAME	TITLE (*If individual, leave blank*)	COMPANY (*If individual, leave blank*)		
Shannon Castagno	Project Manager	Environmental Support Services		
MAILING ADDRESS	CITY		STATE	ZIP CODE
1521 Beaver Tan Ct.	Wake Forest		NC	27587
TELEPHONE	FAX	EMAIL ADDRESS		
949-429-3564		Shannon@EnvironmentalSupportServices.com		

So that we may provide better service, please check one or more of the boxes below which best describe how the findings of the Env. Audit Phase 1 Certified Hazardous Materials Records Search will be used and/or your relationship to the property in question.

PURPOSE OR RELATIONSHIP TO PROPERTY

- [X] 1. Phase I site assessment or due diligence **AT THE SITE**
- [ ] 2. Environmental professional involved with remediation **AT THE SITE**
- [ ] 3. Phase I site assessment or due diligence **NEARBY**
- [ ] 4. Environmental professional involved with remediation **NEARBY**
- [ ] 5. Proposed School Site (1/4 mi. search for AHM)
- [ ] 6. Proposed Drinking Water Well
- [ ] 7. Owner or operator of the facility or property
- [ ] 8. Potential buyer
- [ ] 9. Real Estate Agent, Lender, Appraiser
- [ ] 10. Pending escrow
- [ ] 11. Proposed redevelopment
- [ ] 12. Legal or other reason: _____

AGENCY USE	
Phase 1 Certified Record Search Finding Report issued: ___/___/___	Reference No:
Phase 1 Certified "No Record" Finding Report issued: ___/___/___	Amount Paid:
	Receipt No.:
	Date:

** IMPORTANT –THIS PAGE MUST BE SIGNED PRIOR TO SUBMITTAL **

DISCLAIMER: While all attempts are made to provide accurate, current, and reliable information, San Bernardino County Fire Protection District *(further referred to as SBDFPD)* recognizes the possibility of human error. Therefore, SBCFPD, its officers, employees, agents and volunteers, make no representations as to the accuracy, completeness or suitability of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report and provides an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report "as is," with no warranties, express or implied, including the implied warranty of fitness for a particular purpose. In no event shall SBCFPD be liable for any damages of any nature whatsoever, arising out of the issuance of a Certified Hazardous Materials Records Search Finding Report. SBCFPD therefore assumes no liability for damages incurred directly or indirectly as a result of any errors, omissions or discrepancies in a Certified Hazardous Materials Records Search Finding Report.

RELEASE AND INDEMNIFICATION: In consideration for the issuance of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report, I hereby release and forever discharge SBCFPD, its officers, employees, agents and volunteers from any and all claims, actions, losses, damages and/or liability in connection with SBCFPD's issuance of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report, including, but not limited to, claims that may arise due to the active or passive negligence of SBCFPD, its officers, employees, agents and volunteers.

I am familiar with the provisions of California Civil Code Section 1542, which provides as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

I hereby expressly waive any and all rights that I may have there under. I understand and acknowledge the significance and consequence of this specific waiver of California Civil Code Section 1542 and assume full responsibility for any injuries, damages, losses or liabilities that I may hereafter discover as possibly resulting from SBCFPD's issuance of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report.

In further consideration for SBCFPD's issuance of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report, I hereby agree, for myself, my heirs, administrators, executors and assigns, that I shall indemnify, defend (with counsel approved by County) and hold harmless SBCFPD, its officers, employees, agents and volunteers from any and all claims, demands, actions or suits arising out of or in connection with SBCFPD's issuance of an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report brought by any third party.

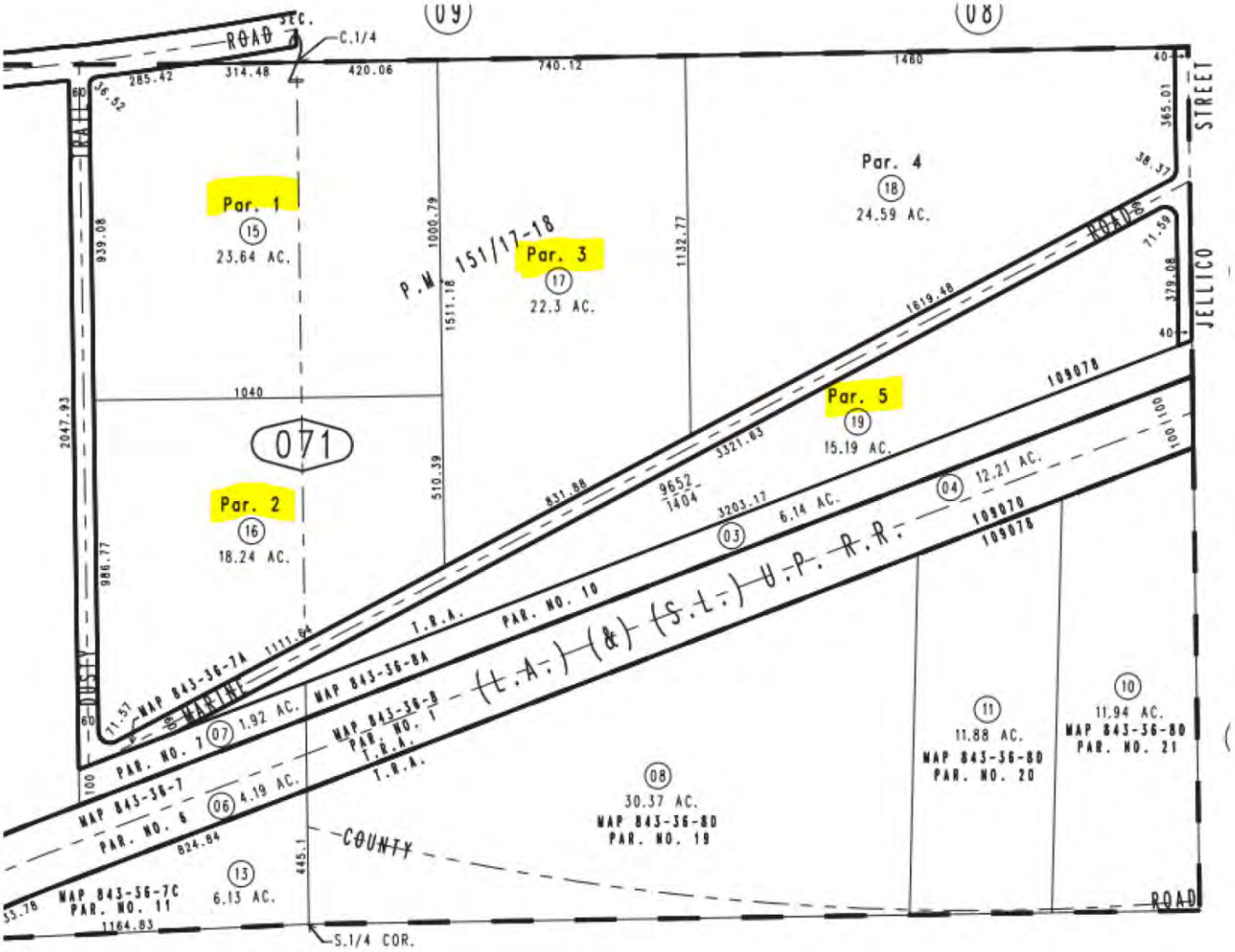
I have read the above terms and conditions, including the paragraphs entitled "DISCLAIMER" and "RELEASE AND INDEMNIFICATION", and by my signature below, I affirm that I understand these terms and conditions and accept them as part of my REQUEST FOR AN ENVIRONMENTAL AUDIT PHASE 1 CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT.

I hereby request an Environmental Audit Phase 1 Certified Hazardous Materials Records Search Finding Report for the location described on Page 1 of this application.

- ❑ **I am including payment of the initial fee of $136.00, for the first hour of research, by check or money order, payable to San Bernardino County Fire Protection District, or by credit card payment taken over the phone. I understand that research exceeding one hour will be billed at the rate of $136.00 for each additional hour spent by SBCFPD in completing this request.**
- ❑ **I have faxed or emailed this request and will forward payment along with the original request form within 48 hours.**

REQUESTOR'S SIGNATURE	
SIGNATURE OF REQUESTOR Shannon Castagno	DATE 11/13/23

Rev. 05/06/2020


09
08
ROAD
Sec.
C.1/4
285.42
314.48
420.06
740.12
1480
365.01
STREET
JELLICO
Par. 1
15
23.64 AC.
Par. 3
17
22.3 AC.
Par. 4
18
24.59 AC.
P.M 151/17-18
939.08
1000.79
1511.18
1132.77
1619.48
379.08
1040
2047.93
071
Par. 2
16
18.24 AC.
Par. 5
19
15.19 AC.
510.39
831.88
9652
1404
5321.63
3203.17
6.14 AC.
03
04
12.21 AC.
109078
100
986.77
T.R.A.
PAR. NO. 10
MAP 843-36-7A
MAP 843-36-8A
MAP 843-36-8
PAR. NO. 1
T.R.A.
07
1.92 AC.
PAR. NO. 7
MAP 843-36-7
PAR. NO. 6
06
4.19 AC.
824.84
08
30.37 AC.
MAP 843-36-8D
PAR. NO. 19
11
11.88 AC.
MAP 843-36-8D
PAR. NO. 20
10
11.94 AC.
MAP 843-36-8D
PAR. NO. 21
COUNTY
ROAD
13
6.13 AC.
MAP 843-36-7C
PAR. NO. 11
1164.83
445.1
S.1/4 COR.

SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT

620 South "E" Street ● San Bernardino, CA 92415-0153 ● (909) 386-8401 ● Fax (909) 386-8460

Office of the Fire Marshal
Hazardous Materials Section
sbcfire.org

Daniel R. Munsey
Fire Chief/Fire Warden

Monica S. Ronchetti
Fire Marshal

November 14, 2023

23111305 Yermo RAL Enviro Support Svcs

ENVIRONMENTAL SUPPORT SERVICES
1521 BEAVER TAN COURT
WAKE FOREST, NC 27587

ATTENTION: **SHANNON CASTAGNO**

SUBJECT: **CERTIFIED RECORD SEARCH FINDINGS**
37265 YERMO ROAD, YERMO, CALIFORNIA
APN #S: 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, 0537-071-19-0000

This is to confirm that the OFM Hazardous Materials Division (HMD) has searched its records for any file(s) pertaining to the subject property, as described in your request, and finds that no records exist for the above site description(s).

Records maintained by OFM-HMD date back to mid-1980's. Records searched include:

- Facilities with hazardous waste generator permits, hazardous materials handler permits, underground storage tank permits, universal waste permits, tiered permits, EPCRA facilities, RMP facilities, Cal ARP facilities, and/or waste recycling generators, including inactive and/or out of business records, as well as non-permitted facility actions
- Logs of permits issued for the removal, installation, and/or modification of underground storage tanks
- Records and databases pertaining to illicit dumping, spill reports, release notifications, and complaints
- Incidents responded to by the hazardous materials emergency response team
- Sites undergoing remediation for contaminated soil and/or groundwater

Christina Rivera

Christina Rivera
Office Specialist
Office of the Fire Marshal
Hazardous Materials Division

BOARD OF DIRECTORS

Col. Paul Cook (Ret.), Vice Chairman, First District
Jesse Armendarez, Second District
Dawn Rowe, Chair, Third District
Curt Hagman, Fourth District
Joe Baca, Jr., Fifth District
Luther Snoke, Chief Executive Officer

Appendix C

Request for Records Search to the
Department of Toxic Substances Control – Cypress Office and
Response Obtained from that Agency

Est. 1988

Environmental Support Services

Environmental Research & Due Diligence Compliance
1521 Beaver Tan Court | Wake Forest, NC 27587
P) 949.429.3564 | F) 949.429.3563 | E) Shannon@EnvironmentalSupportServices.com
www.EnvironmentalSupportServices.com | EIN# 83-0533710

November 13, 2023

Dept of Toxic Substances Control
Cypress Office
5796 Corporate Avenue
Cypress, CA 90630

Attention: Julie Chandler/Jone Barrio

Dear Julie/Jone,

Please check for any files/information on the following site:

Site: 37265 Yermo Road
Yermo, CA 92398
APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000
(See Attached Map)

Sincerely,
Environmental Support Services



Shannon Castagno
Project Manager
Shannon@EnvironmentalSupportServices.com

Department of Toxic Substances Control

Yana Garcia
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
5796 Corporate Avenue
Cypress, California 90630

Gavin Newsom
Governor

November 14, 2023

Shannon Castagno
ENVIRONMENTAL SUPPORT SERVICES
shannon@environmentalsupportservices.com

PR4-111323-03
37265 YERMO ROAD, YERMO CA 0537-071-15-0000, -16-0000, -17-0000, -19-0000

Dear Requestor:

We have received your Public Records Act Request from the Department of Toxic Substances Control (DTSC). After a thorough review of our files, no site records were found pertaining to the sites/facilities referenced above.

A large number of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSCs Data Management System. It tracks our cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov.

You'll find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 714-4845337 or via email at CypressFileRoom@dtsc.ca.gov.

Sincerely,

Julie Chandler

Julie Chandler
Regional Records Coordinator
Administrative Services Branch

Appendix D

Request for Records Search to the
Department of Toxic Substances Control – Chatsworth Office and
Response Obtained from that Agency

Est. 1988

Environmental Support Services

Environmental Research & Due Diligence Compliance
1521 Beaver Tan Court | Wake Forest, NC 27587
P) 949.429.3564 | F) 949.429.3563 | E) Shannon@EnvironmentalSupportServices.com
www.EnvironmentalSupportServices.com | EIN# 83-0533710

November 13, 2023

Dept of Toxic Substances Control
Chatsworth Office
9211 Oakdale Avenue
Chatsworth, CA

Attention: Robert Hardison

Dear Robert,

Please check for any files/information on the following site:

Site: 37265 Yermo Road
Yermo, CA 92398
APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000
(See Attached Map)

Sincerely,
Environmental Support Services



Shannon Castagno
Project Manager
Shannon@EnvironmentalSupportServices.com

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
9211 Oakdale Avenue
Chatsworth, California 91311

Yana Garcia
Secretary for
Environmental Protection

Gavin Newsom
Governor

November 14, 2023

Shannon Castagno
Environmental Support Services
shannon@environmentalsupportservices.com

Public Records Request Number: PR3-111323-04

Locations: 37265 Yermo Road, Yermo, CA 92398

APNs: 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000

Dear Ms. Castagno:

On November 13, 2023, the Department of Toxic Substances Control (DTSC) received your email of the same date, requesting records under the Public Records Act. After a thorough review of our files, no site records were found pertaining to the sites/facilities referenced above.

Many of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSC's data management system. It tracks our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov. You will find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 818-717-6508 or via email at ChatsworthFileRoom@dtsc.ca.gov.

Sincerely,

Joseph M von Teichert

Joseph M von Teichert
Records Mgmt. Asst. Coordinator

Appendix E

Request for Records Search to the
Cal Fire – Office of the State Fire Marshal and
Response Obtained from that Agency

shannon environmentalsupportservices.com

From: CALFIRE PRA Records Center <calfire@govqa.us>
Sent: Monday, November 13, 2023 2:20 PM
To: shannon environmentalsupportservices.com
Subject: Public Records Request :: R010757-111323

RE: PUBLIC RECORDS REQUEST of 11/13/2023, Reference # R010757-111323

Dear Shannon Castagno,
Thank you for your interest in public records of CAL FIRE. Your request has been received and is being processed in accordance with the California Public Records Act, Government Code section 6250 et seq. Your request was received on November 13, 2023 and given the reference number R010757-111323 for tracking purposes.

Records Requested: Site: 37265 Yermo Road, Yermo, CA, 92398, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Attached Map) . ESS requests the following information concerning the subject site which your agency may have on file: 1. utilization, manufacture, storage, or discharge of hazardous materials/waste. 2. previous or on-going site investigations/remediations pertaining to hazardous materials/waste. 3. hazardous materials disclosures concerning the site. 4. pipelines. 5. information regarding underground storage tank present or previously found at the site. 6. Reportable Spills, Releases, Notices of Violations (NOVs) and any Environmental Reportable Issues.

Your request will be forwarded to the relevant CAL FIRE department(s) to locate the information you seek and to determine the volume and any costs that may be associated with satisfying your request. You will be contacted about the availability and/or provided with copies of the records in question. PLEASE NOTE: The California Public Records Act does not require a governmental body to create new information, to do legal research, or to answer questions.

You can monitor the progress of your request at the link below and you'll receive an email when your request has been completed.

CAL FIRE

To monitor the progress or update this request please log into CAL FIRE Records Center

shannon environmentalsupportservices.com

From: CALFIRE PRA Records Center <calfire@govqa.us>
Sent: Tuesday, November 14, 2023 7:48 PM
To: shannon environmentalsupportservices.com
Subject: [Records Center] Public Records Request :: R010757-111323

--- Please respond above this line ---

RE: PUBLIC RECORDS REQUEST of November 13, 2023, Reference # R010757-111323

Dear Shannon Castagno,

CAL FIRE received a California Public Records Act (CPRA) request from you on November 13, 2023. Your request mentioned:

"Site: 37265 Yermo Road, Yermo, CA, 92398, APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000 (See Attached Map) . ESS requests the following information concerning the subject site which your agency may have on file: 1. utilization, manufacture, storage, or discharge of hazardous materials/waste. 2. previous or on-going site investigations/remediations pertaining to hazardous materials/waste. 3. hazardous materials disclosures concerning the site. 4. pipelines. 5. information regarding underground storage tank present or previously found at the site. 6. Reportable Spills, Releases, Notices of Violations (NOVs) and any Environmental Reportable Issues."

CAL FIRE has reviewed its files and has determined there are no responsive documents to your request.

We recommend that you visit the California Regulated Site Portal at https://siteportal.calepa.ca.gov/nsite/map/help.

Information on facilities or locations/areas that have been reported to the State Warning Center for hazardous materials spills or releases may be found on the Governor's Office of Emergency Services (Cal OES) HazMat Spill Release Reporting Database (https://w3.calema.ca.gov/operational/malhaz.nsf/$defaultview).

To search for nearby pipelines please visit: https://www.npms.phmsa.dot.gov/.

To search for open fire code violations please submit a records request with your local jurisdiction.

If you have any questions or need additional information, you can manage your request through the CAL FIRE PRA Records Center.

Sincerely,
Ashley Bradley
PRA Analyst
Sacramento - HQ - Legal Office

To monitor the progress or update this request please log into the CAL FIRE PRA Records Center



Appendix F

Requirements to Obtain Building Permits Prior to 1987
From the San Bernardino County Building

STEPS TO OBTAINING PERMIT RESEARCH FOR NON-PROPERTY OWNERS

RESEARCH FEES

$10.00 for first parcel
$5.00 for each additional parcel

PERMITS ISSUED AFTER 1987

If the permit was issued after 1987, please complete and submit the Permit Research Application form at https://lus.sbcounty.gov/building-safety-home/permit-research/

You can also view/print permits and inspections for Building and Safety applications submitted after June 30, 2017. Please watch this Permit Research Video for instructions and then go to https://ezop.sbcounty.gov/CitizenAccess/ to perform research.

PERMITS ISSUED PRIOR TO 1987

OPTION 1: Chain of Title

1. Obtain a chain of title from a local title company. This will provide the names of historical owners.
2. Complete and submit the Permit Research Application form, along with the chain of title at https://lus.sbcounty.gov/building-safety-home/permit-research/

OPTION 2: Ownership Research

Conduct private research to gather a list of historical owners dating back to the date of original construction. Once a list of historical owner names is obtained, provide the list of names as an attachment to your Permit Research Application form. (List of historical names from Assessor's PIMS database does not suffice.)

FINDINGS

1. Complete and submit the Permit Research Application form, along with any of the required information/documents listed above at https://lus.sbcounty.gov/building-safety-home/permit-research/

2. A link for payment of research fees will be provided via email. Fee must be paid within 30 calendar days or your request will be deleted.

3. If we are able to obtain a copy of the permit(s), the document will be emailed to you via email.

Appendix G

Request for Records Search to the
South Coast Air Quality Management District and
Response Obtained from that Agency

shannon environmentalsupportservices.com

From: PublicRecordsRequests@aqmd.gov
Sent: Monday, November 13, 2023 2:24 PM
To: shannon environmentalsupportservices.com
Subject: SCAQMD Public Records Request Submittal Acknowledgement



Shannon Castagno
Environmental Support Services
1521 Beaver Tan Court
Wake Forest, Nc 27587

RE: Request for Records
Request: Applications (APPLS), Complaints, Permits to Operate (P/O), Site Inspection Reports (I/R), Equipment List Report (EQL), Emissions Summary, Notices of Violation (NOV), Notices to Comply (N/C)

Facility ID:

Facility Name:

Address: 37265 YERMO ROAD

City: YERMO

Your request for records has been received by the Public Records Unit and will be assigned for processing. A Control Number will be issued for your request and should be referenced in all future communications and correspondence. **Within 10 days of our receipt of your request, we will send you an email letting you know if we have the requested records, and how long it will take to provide them. Please send any follow up emails to the staff member that sends this email, and reference the request number.**

Should you have any questions or need additional information, please do not hesitate to contact me at (909) 396-3700, Tuesday through Friday, between the hours of 8:00 a.m. 4:30 p.m.

Sincerely,

COLLEEN PAINE

For Colleen Paine
Public Records Coordinator

1422105

shannon environmentalsupportservices.com

From: mcard@aqmd.gov
Sent: Wednesday, November 15, 2023 6:23 PM
To: shannon environmentalsupportservices.com
Cc: ob_pr_support_docs@aqmd.gov
Subject: SCAQMD Public Records Request# 1422105, -- Rejection Letter



Shannon Castagno

Environmental Support Services

1521 Beaver Tan Court

Wake Forest, Nc 27587

Ref: Request for Records; Control No. **1422105**, Received 11/14/2023

RE: APPL'S, P/O'S, EQL'S, NOV'S, N/C'S, COMPLAINTS, I/R'S & EMISSION SUM FOR 37265 YERMO RD, YERMO, CA, FROM 1/1/1900-11/13/2023.

The District is unable to process your request as submitted because the record you have requested:

Are not within this agency's jurisdiction

MOJAVE DESERT AQMD, 14306 PARK AVE, VICTORVILLE, CA 92392
760/245-1661

Should you have any questions or need additional information, please do not hesitate to contact me at (909) 396-3700, Tuesday through Friday, between the hours of **8:00 a.m.** and **4:30 p.m.**

Sincerely,

Michelle Card

For Colleen Paine

Public Records Coordinator

Information Management

Appendix H

Request for Records Search to the
Mojave Air Quality Management District and
Response Obtained from that Agency

shannon environmentalsupportservices.com

From: webmaster@mdaqmd.ca.gov
Sent: Wednesday, November 15, 2023 7:50 PM
To: shannon environmentalsupportservices.com
Subject: Online Public Records Request

A new entry to a form/survey has been submitted.

Form Name:	Public Records Request Form - Digital Copies
Date & Time:	11/15/2023 4:50 PM
Response #:	521
Submitter ID:	1851
IP address:	2600:1700:7d1:1c30:516a:f6a3:9e2d:4b43
Time to complete:	1 min. , 50 sec.

Survey Details

Page 1

ATTENTION REQUESTOR: To expedite your request for District records, please fill out this form completely, and identify specifically the type of records you are requesting. Please limit your request to one facility or one site address for each request form filed. Additional forms can be used if requesting information for more than one facility or for records not identified on this form. Requests should reasonably describe identifiable records prepared, owned, used, or retained by the District. Public Records Unit staff is available to assist you in identifying those records in the District's possession. The District is not required by law to create a new record or list from an existing record.

Requester Information:

NAME:	Shannon Castagno	**DATE:**	11/15/23
COMPANY:	Environmental Support Services	**MAILING ADDRESS:**	1521 Beaver Tan Court
CITY:	Wake Forest	**STATE:**	NC
ZIPCODE:	27587	**PHONE NUMBER:**	(949) 429-3564
E-MAIL ADDRESS*:	SHANNON@ENVIRONMENTALSUPPORTSERVICES.COM		

Requested Records:

[×] Applications (APPLS)	[×] Permits to Operate (P/O)	[×] Notices of Violation (NOV)
[×] Notices to Comply (N/C)	[×] Complaints	[×] Site Inspection Reports (I/R)

[×] Emissions Reports
[×] Air Monitoring Data
[×] Facility Correspondences

TIME PERIOD OF DOCUMENTS REQUESTED:

FROM:	01/01/1900	**TO:**	11/15/2023

Requested Facility Information (If Applicable):

FACILITY NAME:	Not answered
FACILITY ADDRESS:	37265 YERMO RD.
CITY	YERMO
STATE:	CA
ZIP CODE:	27587
FACILITY I.D. NO. (If Known):	Not answered
APPL. AND/OR PERMIT NO. (IF Known):	Not answered

Thank you,
Mojave Desert Air Quality Management District

This is an automated message generated by Granicus. Please do not reply directly to this email.

shannon environmentalsupportservices.com

From: Barbara Hayes <bhayes@mdaqmd.ca.gov>
Sent: Thursday, November 16, 2023 9:50 AM
To: shannon environmentalsupportservices.com
Cc: Robyn Simpson
Subject: FW: Public Records Request #23-11-16-03

Good Morning Good Morning Ms. Castagno,

There are no records for the subject property located at 37265 Yermo Rd., Yermo, CA 27587.

If you have any questions, please contact Robyn Simpson at rsimpson@mdaqmd.ca.gov

Thank you,

Barb

Barbara Hayes
Records Management Specialist I
760.245.1661, ext. 2574 *Office*
760.245.2022 *Fax*
MDAQMD.ca.gov
@MDAQMD on **Facebook**, **Twitter** and **Instagram**

Appendix I

Request for Records Search to the
Regional Water Quality Control Board – Lahontan Region and
Response and Photocopies Obtained from that Agency

Est. 1988

Environmental Support Services

Environmental Research & Due Diligence Compliance
1521 Beaver Tan Court | Wake Forest, NC 27587
P) 949.429.3564 | F) 949.429.3563 | E) Shannon@EnvironmentalSupportServices.com
www.EnvironmentalSupportServices.com | EIN# 83-0533710

November 13, 2023

Regional Board Records Management Officer
Attn: PRA Coordinator
California Regional Water Quality Control Board, Lahontan Region
15095 Amargosa Road - Bldg 2, Ste 210
Victorville, CA 92394

Attention: LUST/WIP/SLIC/Site Mitigation Divisions

Dear Public Records Request,

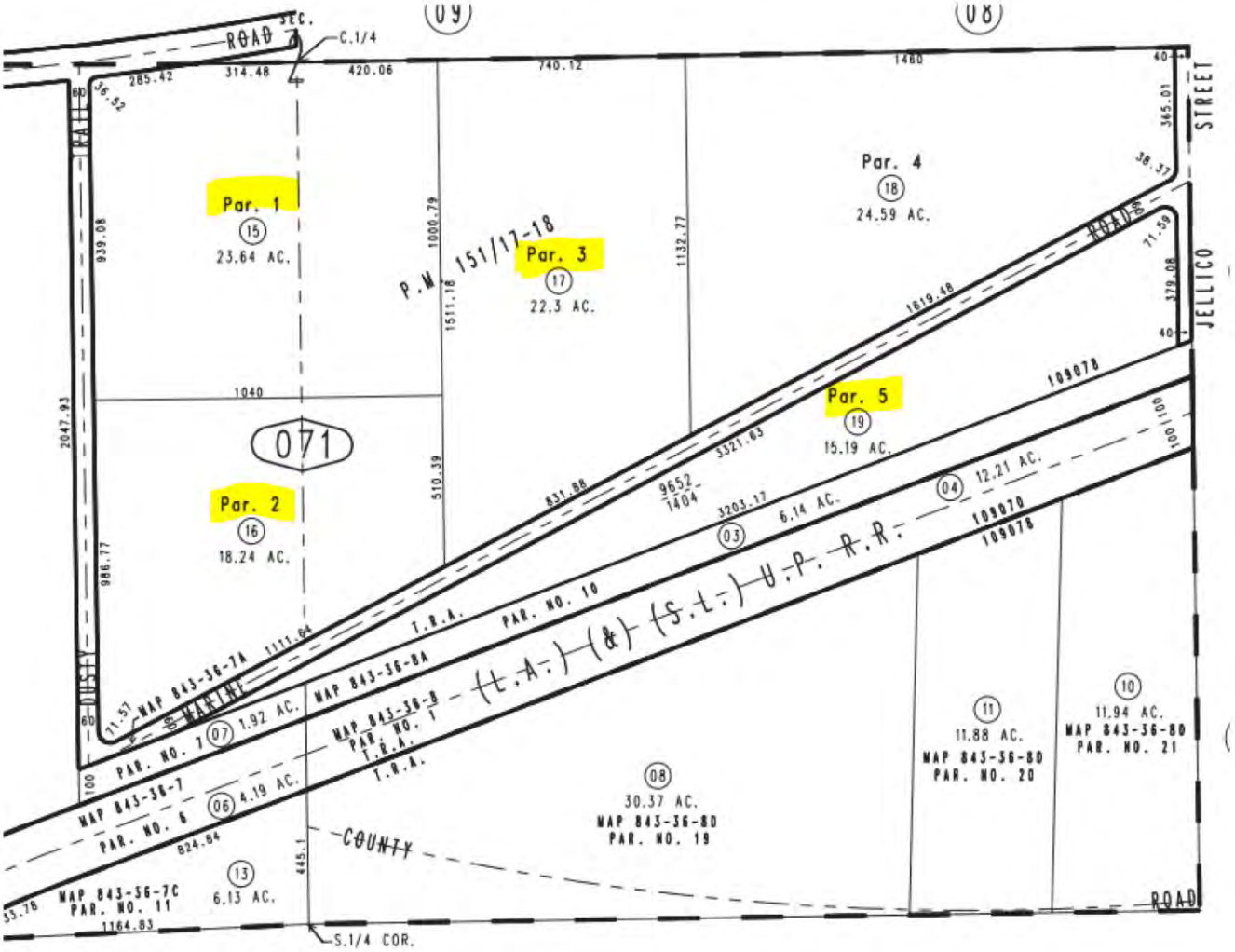
Please check for any files/information on the following sites:

Site: 37265 Yermo Road
Yermo, CA 92398
APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-0000
(See Attached Map)

Anything you can do to expedite this request would be greatly appreciated. Please call me at (949) 429-3564. Thanks!

Sincerely,
Environmental Support Services

Shannon Castagno
Project Manager
Shannon@EnvironmentalSupportServices.com


09
08
ROAD
Sec.
C.1/4
285.42
314.48
420.06
740.12
1480
365.01
STREET
JELLICO
Par. 1
15
23.64 AC.
Par. 3
17
22.3 AC.
Par. 4
18
24.59 AC.
P.M 151/17-18
939.08
1000.79
1511.18
1132.77
1619.48
379.08
1040
2047.93
071
Par. 2
16
18.24 AC.
Par. 5
19
15.19 AC.
510.39
831.88
9652
1404
5321.63
3203.17
6.14 AC.
03
04
12.21 AC.
109078
100
986.77
T.R.A.
PAR. NO. 10
MAP 843-36-7A
MAP 843-36-8A
MAP 843-36-8
PAR. NO. 1
T.R.A.
07
1.92 AC.
PAR. NO. 7
MAP 843-36-7
PAR. NO. 6
06
4.19 AC.
824.84
08
30.37 AC.
MAP 843-36-8D
PAR. NO. 19
11
11.88 AC.
MAP 843-36-8D
PAR. NO. 20
10
11.94 AC.
MAP 843-36-8D
PAR. NO. 21
COUNTY
ROAD
13
6.13 AC.
MAP 843-36-7C
PAR. NO. 11
1164.83
445.1
S.1/4 COR.

shannon environmentalsupportservices.com

From: Flores, Silvia@Waterboards <Silvia.Flores@Waterboards.ca.gov>
Sent: Tuesday, November 21, 2023 11:44 AM
To: shannon environmentalsupportservices.com
Cc: WB-RB6S-PRA; Guerra, Christina@Waterboards; Shay, Eric@Waterboards
Subject: PRA231107 Public Records Request Response

Hello Shannon Castagno,

The Lahontan Regional Water Quality Control Board received your request for documents associated with APNs 0537-071-15-0000, 0537-071-16-0000, 0537-071-17-0000, and 0537-071-19-000.

APN 0537-071-19-0000 is associated with the Yermo California Classification Yard WDID 6B36C360656. Documents responsive to this request were identified and can be accessed as follows.

Documents such as site photos, inspection reports, laboratory data, general correspondence, and Storm Water Pollution Prevention Plan can be accessed online from any computer by going to California Storm Water Multiple Applications and Report Tracking System website.

1. Go to California Storm Water Multiple Applications and Report Tracking System
2. Click on “Public User Menu.”
3. Click “Search for Owners/Operators or Facilities/Sites”
4. Enter “6B36C360656" in the WDID search field
5. Click “Search.”
6. Click on “NOI Form” and “View Attachments” to locate documents.

Please let me know if you have any further questions.

Silvia Flores
Scientific Aid
Lahontan Regional Water Quality Control Board
15095 Amargosa Road, Bldg. 2 Suite 210
Victorville, CA 92394
Phone: (760) 241-7384
Email: silvia.flores@waterboards.ca.gov

From: shannon environmentalsupportservices.com <shannon@environmentalsupportservices.com>
Sent: Monday, November 13, 2023 11:08 AM
To: WB-RB6S-PRA <RB6S-PRA@Waterboards.ca.gov>
Subject: Public Records Request

EXTERNAL:

Thank you Cynthia.

Please sese attached public records request.

Thanks and have a great day 😊

Sincerely,
Shannon Castagno
Project Manager
Tel) 949-429-3564
Fax) 949-429-3563
http://EnvironmentalSupportServices.com

From: WB-RB6S-PRA <RB6S-PRA@Waterboards.ca.gov>
Sent: Monday, November 13, 2023 1:56 PM
To: shannon environmentalsupportservices.com <shannon@environmentalsupportservices.com>
Subject: PRA inbox

CC Harris

Mrs. Cynthia (CC) Harris
Staff Services Analyst
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd. South Lake Tahoe, CA 96150
Cynthia.benato@waterboards.ca.gov
(530) 542-5711

State Water Resources Control Board

NOTICE OF INTENT

GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY
(WQ ORDER No. 2009-0009-DWQ)

QID: 6B3	360656	Risk Lev	Level1

Owner Information

Type	Private Business		
Name	Union Pacific Railroad	Contact Name	Michael Zucker
Address	1400 Douglas Street	Title	
Address2	MS 0910	Phone Number	402-544-3281
City/State/Zip	Omaha NE 68179	Email Address	mjzucker@up.com

Contractor/Developer Information

Name	To Be Determined	Contact Name	To Be Determined
Address	To Be Determined	Title	
Address2		Phone Number	111-111-1111
City/State/Zip	San Bernardino CA 92398	Email Address	ToBeDetermined@xyz.com

Construction Site Information

Contact Name	Russ Boeckner	Title	Mgr Spec Proj Field Const
Site Name	Yermo California Classification Yard		
Address	Marine Road		
City/State/Zip	Yermo CA 92398	Site Phone	714-510-4281
County	San Bernardino	Email Address	rhboeckn@up.com
Latitude	34.89709	Longitude	-116.84479
Construction Start	April 01, 2011		
Total Size of Construction	22.32 Acres	Complete Grading	June 30, 2011
Total Area to be Disturbed	22.32 Acres	Final Stabilization	August 31, 2011

Risk Value

Sediment	3.39	Receiving	0.16	TMDL	0.33	Beneficial Uses/Value	No

Type of Construction	*Reconstruction
Receiving Water	
Qualified SWPPP Developer	Lance Jones

RWQCB Jurisdiction	Region 6B - Victorville		
Phone	760-241-6583	Email	r6b_stormwater@waterboards.ca.gov

Application Certification

Name	Michael Zucker	Date	March 22, 2011
Title			

Approved Date: March 24, 2011

Michael Zucker
Union Pacific Railroad
1400 Douglas Street MS 0910
Omaha NE 68179

RECEIPT OF YOUR NOTICE OF INTENT (NOI)

The State Water Resources Control Board (State Water Board) has received and processed your NOI to comply with the terms of the General Permit to Discharger Storm Water Associated with Construction Activity. Accordingly, you are required to comply with the permit requirements.

The Waste Discharger Identification (WDID) number is: **6B36C360656** Please use this number in any future communication regarding this permit.

	SITE DESCRIPTION
OWNER:	Union Pacific Railroad
DEVELOPER:	To Be Determined
SITE INFORMATION:	Yermo California Classification Yard Marine Road Yermo
TOTAL DISTURBED ACRES:	22.32
START DATE:	April 01, 2011
COMPLETION DATE:	August 31, 2011
COUNTY:	San Bernardino

When the Owner changes , a new NOI, site map, and fee must be submitted by the new Owner. As the previous owner, you are required to submit a Notice of Termination (NOT) to the local Regional Water Board stating you no longer own or operate the Site and coverage under the General Permit is not required. Unless notified, you will continue and are responsible to pay the annual fee invoiced each January.

If you have any questions regarding permit requirements, please contact your Regional Water Board at 760-241-6583 . Please visit the storm water web site at http://www.waterboards.ca.gov/water_issues/programs/stormwater/ to obtain an NOT and other storm water related information and forms.

Sincerely,

Storm Water Section
Division of Water Quality





N

1 inch = 80 feet

0 40 80 160 Feet

Legend

- Stabilized Construction Entrance/Exit
- Chain Link Fence
- Silt Fence

Drilled Dried Grain Facility Design
Union Pacific Railroad
Yermo, CA

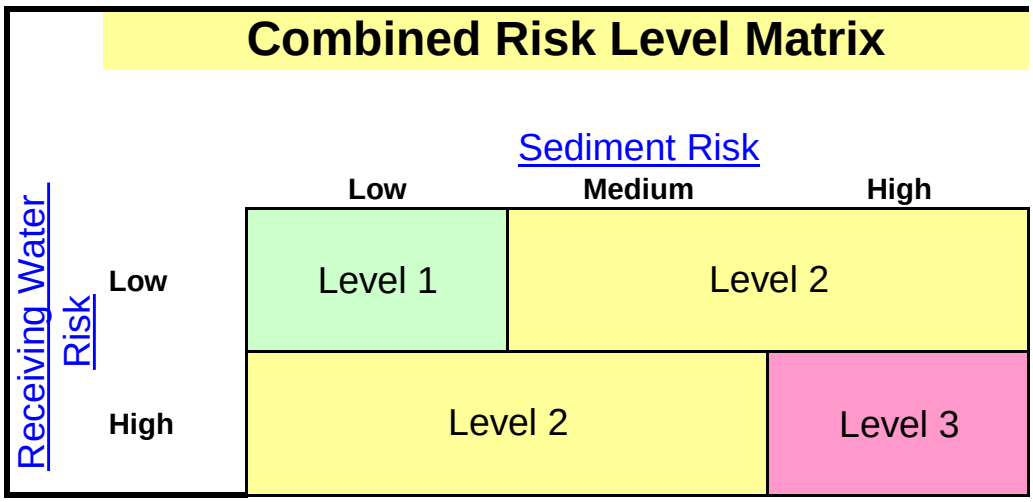
BMP Map
Figure 1

July 2011

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		3.39
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.16
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.33
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		0.178992
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml	**No**	**Low**
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbquse.asp		

Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**Low**
Project Combined Risk:	**Level 1**

Rainfall Erosivity Factor Calculator for Small Construction Sites

Facility Information

Facility Name: Yermo, California Classification Yard
Start Date: 04/01/2011
End Date: 08/31/2011
Latitude: 34.8971
Longitutde: -116.8448

Erosivity Index Calculator Results

AN EROSIVITY INDEX VALUE OF **3.39** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF **04/01/2011** - **08/31/2011**.

A rainfall erosivity factor of less than 5.0 has been calculated for your site and period of construction. Contact your permitting authority to determine if you are eligible for a waiver from NPDES permitting requirements. If you are covered under EPA's construction general permit then you can use eNOI to submit your low erosivity waiver certification.

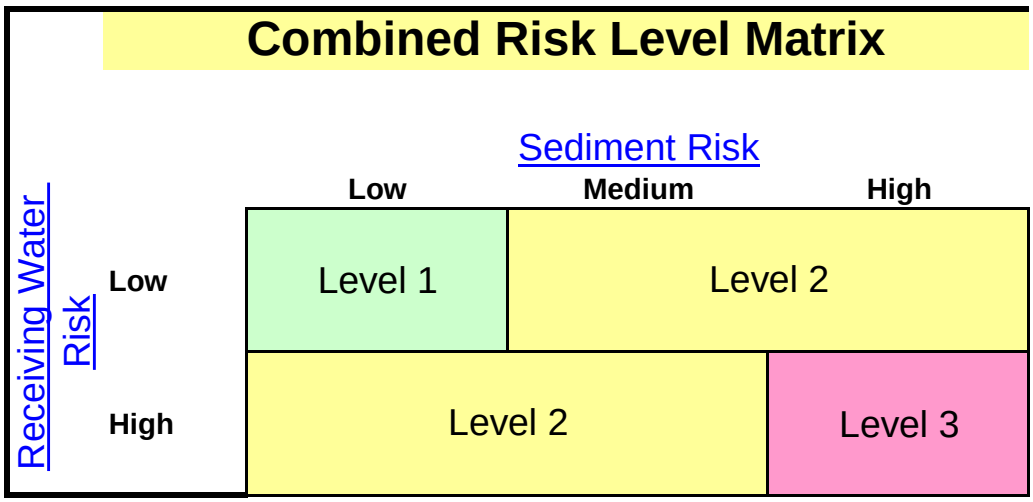
If your construction activity extends past the project completion date you specified above, you must recalculate the R factor using the original start date and a new project completion date. If the recalculated R factor is still less than 5.0, a new waiver certification form must be submitted before the end of the original construction period. If the new R factor is 5.0 or greater, the operator must submit a Notice of Intent to be covered by the Construction General Permit before the original project completion date.

Start Over

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		3.39
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.16
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.33
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		0.178992
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml	**No**	**Low**
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbquse.asp		

Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**Low**
Project Combined Risk:	**Level 1**

Rainfall Erosivity Factor Calculator for Small Construction Sites

Facility Information

Facility Name: Yermo, California Classification Yard
Start Date: 04/01/2011
End Date: 08/31/2011
Latitude: 34.8971
Longitutde: -116.8448

Erosivity Index Calculator Results

AN EROSIVITY INDEX VALUE OF **3.39** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF **04/01/2011** - **08/31/2011**.

A rainfall erosivity factor of less than 5.0 has been calculated for your site and period of construction. Contact your permitting authority to determine if you are eligible for a waiver from NPDES permitting requirements. If you are covered under EPA's construction general permit then you can use eNOI to submit your low erosivity waiver certification.

If your construction activity extends past the project completion date you specified above, you must recalculate the R factor using the original start date and a new project completion date. If the recalculated R factor is still less than 5.0, a new waiver certification form must be submitted before the end of the original construction period. If the new R factor is 5.0 or greater, the operator must submit a Notice of Intent to be covered by the Construction General Permit before the original project completion date.

Start Over

DRAFT STORM WATER POLLUTION PREVENTION PLAN

Yermo, California Classification Yard
Construction of Dried Distilled Grain Transload Facility

Union Pacific Rail Road

March 2011

WDID #: 6B36C360656

2365 Iron Point Road, Suite 300
Folsom, CA 95630

Draft Storm Water Pollution Prevention Plan

For:
Yermo, California Classification Yard
Construction of Dried Distilled Grain Transload Facility

RISK LEVEL 1

Legally Responsible Person (LRP):
Union Pacific Railroad
1400 Douglas Street
MS 0910
Omaha, NE, 68179

Authorized Representative:
Michael Zucker
(402) 544-3281

Approved Signatory:
To Be Determined

Project Site Location/Address:
Marine Road
Yermo, CA 952398
Latitude: 34.89709 Longitude: -116.84479

SWPPP Prepared by:
HDR
2365 Iron Point Road, Suite 300
Folsom, CA 95630
(916) 817-4766
Lance Jones, PE, LEED AP, QSD

SWPPP Preparation Date:
March 2011

Estimated Project Dates:
Start of Construction: April 1, 2011
Completion of Construction: June 30, 2011

Contents

Acronyms ..... **ii**

Qualified SWPPP Developer ..... **iv**

Qualified SWPPP Developer (for Contractor) ..... **v**

Legally Responsible Person ..... **vi**

Amendment Log ..... **vii**

1.0 Storm Water Pollution Prevention Plan Requirements **1**
1.1 Introduction 1
1.2 Permit Registration Documents 2
1.3 SWPPP Availability and Implementation 2
1.4 SWPPP Amendments 3
1.5 Retention of Records 4
1.6 Required Non-Compliance Reporting 5
1.7 Annual Report 6
1.8 Changes to Permit Coverage 6
1.9 Notice of Termination 7

2.0 Project Information **8**
2.1 Project and Site Description 8
Project Site Location/Description 8
Watershed & Regional Drainage 8
Local Drainage 9
2.2 Permit and Governing Documents 9
2.3 Stormwater Run-on from Outside Area 9
2.4 Findings of the Construction Site Sediment and Receiving Water Risk Determination 10
I – Sediment Risk 10
II – Receiving Water Risk 10
III – Overall Risk Level 10
2.5 Construction Schedule 10
2.6 Potential Construction Site Pollutant Sources 11
2.7 Identification of Non-Stormwater Discharges 11
2.8 Required Site Map Information 12

3.0 Best Management Practices **13**
3.1 Schedule for BMP Implementation 13
3.2 Erosion and Sediment Control 14
Erosion Control 14
Sediment Controls 16
3.3 Non-Stormwater Controls and Waste and Materials Management 18
Non-Stormwater Controls 18
Materials Management and Waste Management 20
3.4 Post Construction Stormwater Management Measures 22

4.0 BMP Inspection, Maintenance, and Rain Event Action Plans **23**
4.1 BMP Inspection and Maintenance 23
4.2 Rain Event Action Plans 23

5.0 Training **24**

6.0 Responsible Parties and Operators **25**

6.1 Responsible Parties 25
6.2 Contractor List 26

7.0 Construction Site Monitoring Program 27
7.1 Purpose 27
7.2 Applicability of Permit Requirements 27
7.3 Weather and Rain Event Tracking 27
Weather Tracking 27
Rain Gauges 28
7.4 Monitoring Locations 28
7.5 Safety and Monitoring Exemptions 28
7.6 Visual Monitoring 29
Routine Observations and Inspections 29
Rain-Event Triggered Observations and Inspections 30
Visual Observations Following a Qualifying Rain Event 31
Visual Monitoring Procedures 31
Visual Monitoring Follow-Up and Reporting 31
Visual Monitoring Locations 32
7.7 Water Quality Sampling and Analysis 32
Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges 32
Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges 38
Additional Monitoring Following an NEL Exceedance 38
Sampling and Analysis Plan for Non-Stormwater Discharges 38
Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board 38
Training of Sampling Personnel 38
Sample Collection and Handling 39
7.8 Active Treatment System Monitoring 41
7.9 Bioassessment Monitoring 41
7.10 Watershed Monitoring Option 41
7.11 Quality Assurance and Quality Control 42
Field Logs 42
Clean Sampling Techniques 42
Chain of Custody 42
QA/QC Samples 43
Data Verification 44
7.12 Records Retention 45

8.0 References 51

CSMP Attachments

Attachment 1. Weather Reports
Attachment 2. Monitoring Records
Attachment 3. Example Forms
Attachment 4. Field Meter Instructions
Attachment 5. Supplemental Information

Appendices

Appendix A. Construction General Permit
Appendix B. Permit Registration Documents (PRDs)
Appendix C. SWPPP Amendment Certifications
Appendix D. Submitted Changes to PRDs
Appendix E. Construction Schedule
Appendix F. Construction Activities, Materials Used and Associated Pollutants
Appendix G. CASQA BMP Handbook Fact Sheets
Appendix H. BMP Inspection Form
Appendix I. Training Reporting Form
Appendix J. Responsible Parties
Appendix K. Contractors and Sub-contractors

Acronyms

BMPs	Best Management Practices
CASQA	California Stormwater Quality Association
CGP	Construction General Permit
CSMP	Construction Site Monitoring Program
DDG	Dried Distilled Grain
EPA	US Environmental Protection Agency
ESA	environmentally sensitive area
General Permit	California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order no. 2009-0009-DWQ)
LRP	Legally Responsible Person
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollution Discharge Elimination System
PRDs	Permit Registration Documents
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
RUSLE	Revised Universal Soil Loss Equation
RWQCB	Regional Water Quality Control Board
SMARTS	Stormwater Multi Application and Report Tracking System
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDLs	Total Maximum Daily Loads

USDA	United States Department of Agriculture
WPCDs	Water Pollution Control Drawings
SWPPM	Storm Water Pollution Prevention Manager

Qualified SWPPP Developer

Approval and Certification of the Draft Stormwater Pollution Prevention Plan

Project Name: Yermo, California Classification Yard Construction of Dried Distilled Grain Transload Facility

Project Number/ID: 147505

"This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD Signature	3/15/2012 *Date*
Lance Jones PE, LEED AP, QSD *QSD Name*	Pending *QSD Certificate Number*
Professional Engineer, HDR *Title and Affiliation*	916-817-4746 *Telephone Number*
Lance.jones@hdrinc.com *Email*	

Qualified SWPPP Developer (for Contractor)

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Yermo, California Classification Yard Construction of Dried Distilled Grain Transload Facility

Project Number/ID: 147505

"This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD Signature	*Date*
QSD Name	*QSD Certificate Number*
Title and Affiliation	*Telephone Number*
Email	

Legally Responsible Person

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Yermo, California Classification Yard Construction of Dried Distilled Grain Transload Facility

Project Number/ID: 147505

Michael Zucker, Union Pacific Rail Road
Legally Responsible Person

402-544-3281
Telephone Number

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • 1-866-563-3107
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • http://www.waterboards.ca.gov

Linda S. Adams
Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

March 22, 2011

Fee Statement
Reference # 412325

Facility/Site
Yermo California Classification Yard
Marine Road
Yermo CA 92398

Thank you for submitting the Permit Registration Documents (PRD) for the facility/site referenced above. Before a WDID number is assigned an Application Fee of $898.00 must be received by May 21, 2011 .If the Storm Water Section does not receive your application fee of $898.00 by May 21, 2011 your PRDs will be returned.

Please make checks payable to: SWRCB

Mail this Fee Statement with an original signature and $898.00 to:

Regular Mailing Address:
SWRCB
Storm Water Section
PO Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address:
SWRCB
Storm Water Section
1001 I Street – 15th Floor
Sacramento, CA 95814

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

MICHAEL ZUCKER – PROGRAM MANAGER

Printed Name / Title

Signature

Amendment Log

Project Name: Yermo, California Classification Yard Construction of Dried Distilled Grain Transload Facility

Project Number/ID: 147505

Amendment No.	Date:	Brief Description of Amendment, include section and page number	Prepared and Approved By
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#
			Name: QSD#

1.0 Storm Water Pollution Prevention Plan Requirements

1.1 Introduction

The Yermo Transload Facility Project comprises approximately 21.3 Acres and is located at Marine Road, Yermo, California. The project's Legally Responsible Person (LRP) is Union Pacific Rail Road (UPRR); Mike Zucker is the Authorized Representative for the UPRR. Project coordinates are Latitude: 34.89709, Longitude: -116.84479 (Figure 1, Appendix B). The project will construct a Dried Distilled Grain (DDG) Transload Facility south of the existing yard within an old yard track area. The western half of the project site is a previously developed, yet unused, yard area. The eastern portion is undeveloped. The DDG facility will consist of a container facility with standard packers to transfer grain from covered hoppers to 40-foot containers. The packers will be a Mi-Jack MJM 90 R Piggy Packer with a lift capacity of 90 kips. The packer operating area is proposed to be surfaced with aggregate. The projects location is shown on the Vicinity Map in Appendix B.

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to comply with the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order No. 2009-0009-DWQ as amended by Order No. 2010-0014-DWQ (NPDES No. CAS000002) issued by the State Water Resources Control Board(State Water Board). This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater Best Management Practice Handbook Portal: Construction (CASQA, 2011). In accordance with the General Permit, Section XIV, this SWPPP is designed to address the following:

- Pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity are controlled;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard;

Calculations and design details as well as BMP controls for are complete and correct, Appendix A.

The Contractor is responsible for updating this draft SWPPP to complete the final SWPPP and continue managing the SWPPP during construction.

1.2 Permit Registration Documents

To obtain coverage under the Construction General Permit, Project Related Documents (PRDs) must be submitted to the SWRCB via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP) (General Permit Sections I.D.36, II.B, and Attachment B.

Copies of the filed PRDs can be found within Appendix B.

The project PRDs (Appendix B) were developed and submitted via the SWRCB's SMARTS system in March 2011. The project PRDs included the Notice of Intent (NOI), Risk Assessment, Site Map, Annual Fee and a signed Certification Statement.

1.3 SWPPP Availability and Implementation

The General Permit (Section XIV.C) requires the SWPPP be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the control measures (BMPs) and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone. The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

Prior to the commencement and kick-off of grading activities, the project SWPPP will be implemented and further maintained on-site at all times by the QSP and made available to the State or Municipal inspector.

QSP (or Authorized Representative) Signature	Date
Name and Title	Telephone Number

1.4 SWPPP Amendments

The General Permit requires that SWPPP be amended or revised by a QSD (Section XIV.A) and that the SWPPP include a listing of the date of initial preparation and the date of each amendment. Amendments must be signed by a QSD (Section VII.B.6). It is recommended that all amendments be dated, directly attached to the SWPPP, and logged in SWPPP Appendix C).

The QSD for preparation of this Draft SWPPP is Lance Jones, PE. Once a contractor is determined, a new QSD will finalize the SWPPP and oversee implementation of proper BMPs.

This SWPPP shall be amended during the following:

- Whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4); or
- If any condition of the Permits is violated or the general objective of reducing or eliminating pollutants in storm water discharges has not been achieved. If the Regional Water Quality Control Board(RWQCB) determines that a Permit violation has occurred, the SWPPP shall be amended and implemented within 14-calendar days after notification by the RWQCB;
- Annually, prior to the defined rainy season; and
- When deemed necessary by the UPRR.

The following items will be included in each amendment:

- Who requested the amendment.
- The location of proposed change.
- The reason for change.
- The original BMP proposed, if any.
- The new BMP proposed.

All amendments should be dated, logged using the Appendix C (SWPPP Amendment Certifications) then attached directly to Appendix C of the SWPPP.

Refer to Appendix C for a list of SWPPP amendments.

1.5 Retention of Records

The General Permit (Sections I.J.69 and IV.G) requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed. The discharger shall furnish the RWQCB, SWRCB, or US Environmental Protection Agency (EPA), within a reasonable time, any requested information to determine compliance with this General Permit. State in the SWPPP where documents will be kept and how this requirement will be met. RWQCB's may require records to be retained for longer periods.

Records shall be retained for a minimum of three years for the following items:

- Site inspections
- Compliance certifications
- Discharge reports
- Approved SWPPP document and amendments

The discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be available at the construction site until construction is completed.

Records of all visual monitoring inspections are required to remain onsite during the construction period and be held by the UPRR and QSP for a minimum of three years. This General Permit requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed.

The discharger shall furnish the RWQCB; State Water Board; or U.S. EPA; (within a reasonable time) any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit. RWQCB may require dischargers to retain records for more than the three years required by this General Permit.

1.6 Required Non-Compliance Reporting

The General Permit identifies several areas of non-compliance reporting. It is the responsibility of the permittee to properly document reportable discharges or other violations of the General Permit. Exceedances and violations should be reporting using the SMARTS system and include the following:

- Self-reporting of any other discharge violations or to comply with RWQCB enforcement actions; and
- Discharges which contain a hazardous substance in excess of reportable quantities established in 40 CFR §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

If a discharge occurs or if the project receives a written notice of non-compliance, the QSP will immediately notify the UPRR and will file a written report to the UPRR within 7 days of the discharge or notice. The UPRR is responsible for filing a written report to the RWQCB within 30 days or identification of non-compliance. Corrective measures will be implemented immediately following the discharge, notice or order.

The report to the UPRR and to the RWQCB will contain the following items:

- The date, time, location, nature of operation, and type of unauthorized discharge, including the cause or nature of the notice or order,
- The BMPs deployed before the discharge event, or prior to receiving notice or order,
- The date of deployment and type of BMPs deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence, and
- An implementation and maintenance schedule for any affected BMPs

1.7 Annual Report

The General Permit requires that all permittees prepare, certify, and electronically submit an Annual Report no later than September 1 of each year. Reporting requirements are identified in Section XVI of the General Permit and include (but are not limited to) providing a summary of:

1. Corrective actions and compliance activities, including those not implemented;
2. Violations of the General Permit;
3. Date, time, place, and name(s) of the inspector(s) for all sampling, inspections, and field measurement activities;
4. Visual observation and sample collection exception records; and
5. Training documentation of all personnel responsible for General Permit compliance activities.

The General Permit annual report will need to be submitted by September 1st. The annual report will need to include a summary of all laboratory reports, analytical methods and chains of custody from all laboratories. Any violations of the General Permit need to be included with the submittal. Identified correction actions taken to remedy any issues including incidences of non-compliance need to be specifically described and presented.

1.8 Changes to Permit Coverage

The General Permit (Section II.C) allows a permittee to reduce or increase the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is sold to a different entity; or when new acreage is added to the project.

To change the acreage covered, the permittee must electronically file modifications to PRDs (revised NOI, site map, SWPPP revisions as appropriate, and certification that new landUPRRs have been notified of applicable requirements to obtain permit coverage (including name, address, phone number, and e-mail address of new landUPRR) in accordance with requirements of the General Permit within 30 days of a reduction or increase in total disturbed area. Include any updates to PRDs submitted via SMARTS in SWPPP Appendix D.

Document any related SWPPP revisions/amendments (Section II.C.2) in SWPPP Appendix C.

1.9 Notice of Termination

To terminate coverage under the General Permit, a Notice of Termination (NOT) must be submitted electronically via SMARTS. A "final site map" and photos are required to be submitted with the NOT. Filing a NOT certifies that all General Permit requirements have been met. The NOT is submitted when the construction project is complete and within 90 days of meeting all General Permit requirements for termination and final stabilization (Section II.D) including:

- The site will not pose any additional sediment discharge risk than it did prior to construction activity.
- All construction related equipment, materials and any temporary BMPs no longer needed are removed from the site.
- Post-construction stormwater management measures are installed and a long-term maintenance plan that is designed for a minimum of five years has been developed.

The NOT must demonstrate through photos, Revised Universal Soil Loss Equation (RUSLE) results, or results of testing and analysis that the project meets all of the requirements of Section II.D.1 of the General Permit by one of the following methods:

- 70% final cover method (no computational proof required); or
- RUSLE/RUSLE2 method (computational proof required); or
- Custom method (discharger demonstrates that site complies with final stabilization).

2.0 Project Information

2.1 Project and Site Description

Project Site Location/Description

The project is location at Marine Road, Yermo, California near Interstate 15. The project will construct a Dried Distilled Grain (DDG) Transload Facility south of the existing yard within an old yard track area. The western half of the project site is a previously developed, yet unused, yard area. The eastern portion is undeveloped. The DDG facility will consist of a container facility with standard packers to transfer grain from covered hoppers to 40-foot containers. The packers will be a Mi-Jack MJM 90 R Piggy Packer with a lift capacity of 90 kips. The packer operating area is proposed to be surfaced with aggregate. The projects location is shown on the Vicinity Map in Appendix B. Pre and post construction impervious area are approximately 1 percent.

The proposed drainage pattern will follow the existing pattern of a large swale located across the middle of the site flowing from west to east. Grading will occur to improve the drainage pattern on site. Once grading is complete, the disturbed soil area will be covered with a layer of aggregate that will be three to six inches thick. No fill will be brought on-site and excess material will be disposed of off-site without intermediate stockpiles.

This area receives just over four inches of rainfall annually spread out over an average of 23 events per year. There are no local drainage systems near the project site.

Project coordinates are Latitude: 34.89709, Longitude: -116.84479 (Figure 1, Appendix B). The project site is approximately 21.32 acres. The project-specific disturbed total area is also about 21 acres. The project Vicinity map (Figure 1) is located in Appendix B.

The soil conditions are generally consistent with the mapped geology and soil survey described previously, consisting of alluvium (Qa) or Cajon sand, respectively. The explorations encountered medium dense to dense, pale brown, fine to medium sand with traces of gravel. The soils below 12 feet range from stiff clay to dense, gravelly, silty, sand. These lower soils generally become coarser in the western yard area.

Groundwater was not encountered within the test pits excavated to a maximum depth of approximately 15 feet below the ground surface. The California Department of Water Resources (DWR) records indicate that the depth to historic high groundwater is about 72 feet below existing grades.

Watershed & Regional Drainage

The project is located within Hydrologic Sub-Area 628.50. The nearest receiving water body is the Mojave River. No TMDL's or 303(d) listed water bodies are located within Hydrologic Sub-Area 628.50.

The project is location in an area with flat (1 to 2 percent slopes) terrain and highly permeable soils. Run-on is not anticipated for this project.

Local Drainage

The project will maintain the existing overall drainage pattern that consists of a drainage swale located through the middle of the site, running east to west. The swale will be covered with aggregate to promote deposition and infiltration.

Table 2-1 Construction Site Estimates

Construction Site Area	21.3 Acres
Percent Impervious Before Construction	1%
Runoff Coefficient Before Construction	.42
Percent Impervious After Construction	1%
Runoff Coefficient After Construction	.42

2.2 Permit and Governing Documents

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP.

- Regional Water Board requirements
- Basin Plan requirements
- Contract Documents
- Air Quality Regulations and Permits
- Federal Endangered Species Act
- National Historic Preservation Act/Requirements of the State Historic Preservation Office
- State of California Endangered Species Act
- Clean Water Act Section 401 Water Quality Certifications and 404 Permits
- CA Department of Fish and Game 1600 Streambed Alteration Agreement

2.3 Stormwater Run-on from Outside Area

Run-on is not anticipated because of the extremely flat terrain surrounding the site. If run-on occurs during construction, it will be directed away from all disturbed areas.

2.4 Findings of the Construction Site Sediment and Receiving Water Risk Determination

I – Sediment Risk

The projects sediment risk level was assessed according to the following criteria. The R value was obtained from the online "Rainfall Erosivity Factor Calculator for small construction sites. A copy of the results from this analysis can be found in Appendix B. The calculator provided an R value equal to 0.83.

Two separate methods were used to calculate the K factor:

- The SWRCB K Value Calculator Located within the Risk Assessment Tab of the SMARTs program calculated a K value of 0.16 (Appendix B).
- The USDA Web Soil Survey was used to estimate a K value of 0.05 (Appendix B).

The more conservative value of 0.16 was used in this risk evaluation.

II – Receiving Water Risk

The project is located within Hydrologic Sub-Area 628.50. The nearest receiving water body is the Mojave River located approximately 1.5 miles from the site. The Mojave River is not listed as part of the 303(d) list of impaired water bodies. The Mojave River is listed for Cold Freshwater Habitat, but is not listed for Spawn or Migratory (Appendix B). These factors qualify the project for a "Low Receiving Water Risk Level".

III – Overall Risk Level

This Risk Level assessment used a site specific risk level determination. A low sediment risk combined with a Low Receiving Water Risk produces an overall project risk Level 1 (Low Risk).

Risk Level 1 sites are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent standards require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures, and best management practices. This SWPPP has been prepared to address Risk Level 1 requirements (General Permit Attachment C).

2.5 Construction Schedule

A general construction schedule is included under this section of the SWPPP. Refer to Appendix E for a more information provided via the QSP's detailed construction schedule.

Estimate Construction Start:	April 1, 2011
Estimate Construction Finish:	June 30, 2011

Site- Specific training:	April 2011
Install stabilized construction entrance on:	April 1, 2011
Mobilization of equipment and materials to begin on:	April 1, 2011
Store on-site temporary erosion and temporary sediment control BMPs beginning on:	April 1, 2011
Install temporary concrete washout:	April 1, 2011
Project complete:	June 30, 2011

2.6 Potential Construction Site Pollutant Sources

The anticipated pollutants based on the project improvements and type of industry will be the following:

Table 2-2 Potential Construction Site Pollutants

General Work Activity/ Products With Potential Stormwater Pollutants	Specific Work Activity/Products With Potential Stormwater Pollutants	Pollutant Categories
Asphalt Paving / Curbs	Hot and Cold Mix Asphalt	Oil and Grease
Concrete / Masonry	Cement and brick dust Colored chalks Concrete curing compounds Glazing compounds Surfaces cleaners Saw cut slurries Tile cutting	Metals, Synthetic Organics
Removal of Existing Structures	Demolition of Existing Rails	Metals, Oils and Grease
Sanitary Waste	Portable Toilets	Nutrients
Solid Waste	Litter, Trash, Debris	Gross Pollutants
Vehicle and Equipment Use	Equipment operation Equipment maintenance Equipment washing Equipment fueling	Oil and Grease

2.7 Identification of Non-Stormwater Discharges

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants.

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are authorized from this project site include the following:

Water to Control Dust

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater

BMPs described in Section 3 of this SWPPP and will be minimized by the QSP. Activities at this site that may result in unauthorized non-stormwater discharges include:

Dust Control Activities

Steps will be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

2.8 Required Site Map Information

The construction project's Vicinity and Site Map showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography and other requirements identified in Attachment B of the General Permit is located in Appendix B. Table below identifies Sheet Nos. where required elements are illustrated.

Table 2-3 Required Map Information

Figure or Sheet No.	Required Element
Figure 1	Projects Surrounding Area
C006 – C009	Site Layout Construction Boundaries Drainage Areas Areas of Soil Disturbance Locations of Sediment Control BMPs Location of Temporary Concrete Washout
PSE 001 – PSE 002	Details for Silt Fence and Temporary Concrete Washout Facility

3.0 Best Management Practices

3.1 Schedule for BMP Implementation

The BMP schedule is the component of the project SWPPP that shows the timeline for when BMPs will be installed so that the project is in compliance with the General Permit. The schedule provides information necessary to plan for adequate materials and crews to install BMPs at the right time so that they are effective. Table 3.1 identifies proposed BMPs and their schedule for implementation.

Table 3-1 BMP Implementation Schedule

	BMP	Implementation	Duration
Erosion Control	EC-1 Scheduling	Prior to Construction	Entire Project
	EC-2 Preservation of Existing Vegetation	Prior to Construction	Entire Project
Sediment Control	SE-1 Silt Fence	Prior to Construction	Entire Project
Wind Erosion Control	WE-1 Wind Erosion Control	Prior to Construction	Entire Project
Non-Stormwater Management Control	NS-3 Paving and Grinding Operations	Prior to Construction	Entire Project
	NS-9 Vehicle & Equipment Fueling	Prior to Construction	Entire Project
	NS-10 Vehicle & Equipment Maintenance	Prior to Construction	Entire Project
	NS-12 Concrete Curing	Prior to Construction	Entire Project
	NS-13 Concrete Finishing	Prior to Construction	Entire Project
Waste Management and Materials Pollution Control	WM-1 Material Delivery and Storage	Prior to Construction	Entire Project
	WM-2 Material Use	Prior to Construction	Entire Project
	WM-4 Spill Prevention and Control	Prior to Construction	Entire Project
	WM-5 Solid Waste Management	Prior to Construction	Entire Project
	WM-8 Concrete Waste Management	Prior to Construction	During Concrete Operations
	WM-9 Sanitary/Septic Waste Management	Prior to Construction	Entire Project

3.2 Erosion and Sediment Control

Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protects the soil surface by covering and/or binding soil particles. This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.
2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following temporary erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix G.

Table 3-2 Temporary Erosion Control BMP's

CASQA Fact Sheet	BMP Name	Meets a Minumum Requirement [1]	BMP Used?		If not used, state reason
			Yes	No	
EC-1	Scheduling	X	X		
EC-2	Preservation of Existing Vegetation	X	X		
EC-3	Hydraulic Mulch	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-4	Hydroseed	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-5	Soil Binders	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-6	Straw Mulch	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-7	Geotextiles and Mats	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-8	Wood Mulching	X[2]		X	Inactive Soils will be stabilized with aggregate base material.
EC-9	Earth Dike and Drainage Swales	X[3]	X		
EC-10	Velocity Dissipation Devices		X		
EC-11	Slope Drains			X	No embankments present
EC-12	Stream Bank Stabilization			X	No steam Banks within Site.
EC-14	Compost Blanket	X[2]		X	No long term stockpiles are anticipated
EC-15	Soil Preparation-Roughening			X	No steep slopes are on site
EC-16	Non-Vegetated Stabilization	X[2]	X		
WE-1	Wind Erosion Control	X	X		
Alternate BMPs Used:					If used, State Reason:

[1] Applicability to a specific project shall be determined by the QSD.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] Run-on from offsite shall be directed away form all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting.

Sediment Controls

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix G.

Table 3-3 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Meets a Minumum Requirement [1]	BMP Used?		If not used, state reason
			Yes	No	
SE-1	Silt Fence	X [2][3]	X		
SE-2	Sediment Basin			X	Not Necessary for Site size.
SE-3	Sediment Trap			X	Not Necessary for Site size.
SE-4	Check Dams			X	Not Necessary for Site size.
SE-5	Fiber Rolls	X [2][3]		X	Sediment will flow to center of site.
SE-6	Gravel Bag Berm	X [3]		X	Not Necessary for Site size.
SE-7	Street Sweeping	X		X	Not Necessary for Site size.
SE-8	Sandbag Barrier			X	Not Necessary for Site size.
SE-9	Straw Bale Barrier			X	Not Necessary for Site size.
SE-10	Storm Drain Inlet Protection	X [2][3]		X	No Storm Drain Inlets within or near Site.
SE-11	ATS			X	Not necessary for Level 1
SE-12	Temporary Silt Dike			X	Not Necessary for proposed Flows
SE-13	Compost Sock and Berm	X [3]		X	Not Necessary for proposed Flows
SE-14	Biofilter Bags	X[3]		X	Not Necessary for proposed Flows
TC-1	Stabilized Construction Entrance and Exit	X		X	Construction Traffic to be routed around proposed grading
TC-2	Stabilized Construction Roadway			X	Construction Traffic to be routed around proposed grading
TC-3	Entrance Outlet Tire Wash			X	Construction Traffic to be routed around proposed grading
Alternate BMPs Used:					If used, State Reason:

[1] Applicability to a specific project shall be determined by the QSD.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] Risk Level 2 & 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope.

3.3 Non-Stormwater Controls and Waste and Materials Management

Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit, are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix G.

Table 3-4 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Meets a Minumum Requirement (1)	BMP Used?		If not used, state reason
			Yes	No	
NS-1	Water Conservation Practices	X	X		
NS-2	Dewatering Operation			X	No Streams Present on or near Site
NS-3	Paving and Grinding Operation		X		
NS-4	Temporary Stream Crossing			X	No Streams Present on or near Site
NS-5	Clear Water Diversion			X	No Streams Present on or near Site
NS-6	Illicit Connection-Illegal Discharge Connection	X		X	No Illegal Discharge present
NS-7	Potable Water Irrigation Discharge Detection			X	No irrigation on Site
NS-8	Vehicle and Equipment Cleaning	X		X	Cleaning will occur off-Site
NS-9	Vehicle and Equipment Fueling	X	X		
NS-10	Vehicle and Equipment Maintenance	X	X		
NS-11	Pile Driving Operation			X	No Pile Driving on Site
NS-12	Concrete Curing		X		
NS-13	Concrete Finishing		X		
NS-14	Material and Equipment Use Over Water			X	No Streams Present on or near Site
NS-15	Demolition Removal Adjacent to Water			X	No Streams Present on or near Site
NS-16	Temporary Batch Plants			X	No Batch Plants on or near Site
Alternate BMPs Used:					If used, State Reason:

(1) Applicability to a specific project shall be determined by the QSD.

Materials Management and Waste Management

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges. [If applicable to the project site, waste management should be conducted in accordance with the Project's Construction Waste Management Plan.]

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated
- Wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix G.

Table 3-5 Temporary Materials Management BMPs

CASQA Fact Sheet	BMP Name	Meets a Minumum Requirement (1)	BMP Used?		If not used, state reason
			Yes	No	
WM-01	Material Delivery and Storage	X			
WM-02	Material Use	X			
WM-03	Stockpile Management	X			
WM-04	Spill Preservation and Control	X			
WM-05	Solid Waste Management	X			
WM-06	Hazardous Waste Management	X			
WM-07	Contaminated Soil Management				
WM-08	Concrete Waste Management	X			
WM-09	Sanitary-Septic Waste Management	X			
WM-10	Liquid Waste Management				
Alternate BMPs Used:					If used, State Reason:

(1) Applicability to a specific project shall be determined by the QSD.

3.4 Post Construction Stormwater Management Measures

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is not located in an area subject to a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) permit approved Stormwater Management Plan. No source control post construction BMPs have been identified for the site.

4.0 BMP Inspection, Maintenance, and Rain Event Action Plans

4.1 BMP Inspection and Maintenance

The General Permit requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist includes the necessary information covered in Section 7.6. A blank inspection checklist can be found in Appendix H. Completed checklists shall be kept in CSMP Attachment 2 “Monitoring Records.

BMPs shall be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and associated\ amendments to the SWPPP shall be prepared by the QSD.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix G.

4.2 Rain Event Action Plans

This Project is identified as Risk Level 1

Rain Event Action Plans (REAPs) are not required for Risk Level 1 projects.

5.0 Training

Appendix J identifies the QSPs for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel shall be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed.

The QSP shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix I, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall correspond to the specific task delegated including: SWPPP implementation; BMP inspection and maintenance; and record keeping.

Documentation of training activities (formal and informal) is retained in SWPPP Appendix I.

6.0 Responsible Parties and Operators

6.1 Responsible Parties

The Approved Signatory is responsible for SWPPP implementation and has authority to sign permit-related documents is listed below. Written authorizations from the LRP for this individual are provided in Appendix K. The Approved Signatory assigned to this project is:

Project Manager:

Michael Zucker
Union Pacific Rail Road
1400 Douglas Street,
Omaha, Nebraska 68179

QSPs identified for the project are identified in Appendix K. The QSP shall have primary responsibility and significant authority for the implementation, maintenance and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project. Duties of the QSP include but are not limited to:

- Implementing all elements of the General Permit and SWPPP, including but not limited to:
  - Ensuring all BMPs are implemented, inspected, and properly maintained;
  - Performing non-stormwater and stormwater visual observations and inspections;
  - Performing non-stormwater and storm sampling and analysis, as required;
  - Performing routine inspections and observations;
  - Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.;
  - The QSP may delegate these inspections and activities to an appropriately trained employee, but shall ensure adequacy and adequate deployment.
  - Ensuring elimination of unauthorized discharges.
  - The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
  - Coordinate with the Contractor(s) to assure all of the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the General Permit and approved plans at all times.

- Notifying the LRP or Authorized Signatory immediately of off-site discharges or other non-compliance events.

6.2 Contractor List

To Be Determined

7.0 Construction Site Monitoring Program

7.1 Purpose

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions of the Construction General Permit;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level 1 project. The General Permit identifies the following types of monitoring as being applicable for a Risk Level 1project.

Risk Level 1

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site related to qualifying storm events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for non-visible pollutants when applicable; and
- Sampling and analysis of construction site runoff as required by the Regional Water Board when applicable.

7.3 Weather and Rain Event Tracking

Visual monitoring and inspections requirements of the General Permit are triggered by a qualifying rain event. The General Permit defines a qualifying rain event as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying storm events.

Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. These forecasts can be obtained at

http://www.srh.noaa.gov/. Weather reports should be printed and maintained with the SWPPP in CSMP Attachment 1 “Weather Reports”.

Rain Gauges

The QSP shall install 1 rain gauge on the project site. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge(s) shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. Log rain gauge readings in CSMP Attachment 1 “Weather Records”. Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied and the gauge reset.

For comparison with the site rain gauge, the nearest appropriate governmental rain gauge(s) is the BARSTOW gauge located at elevation 658, Latitude 34.9 and Longitude -117.0.

7.4 Monitoring Locations

Monitoring locations will be designated by the Contractor once the project is awarded. Monitoring locations are described in the Sections 7.6 and 7.7.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

7.5 Safety and Monitoring Exemptions

Safety practices for sample collection shall be in accordance with the awarded Contractor’s Health and Safety Plan for the project. A summery of the safety requirements that apply to the sampling personnel will be provided by the awarded Contractor.

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

Scheduled site business hours will be specified by the Contractor.

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in CSMP Attachment 2 "Monitoring Records".

7.6 Visual Monitoring

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7.1 identifies the required frequency of visual observations and inspections.

Table 7.1 Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections	
BMP Inspections	Weekly [1]
BMP Inspections – Tracking Control	Daily
Non-Stormwater Discharge Observations	Quarterly during daylight hours
Rain Event Triggered Inspections	
Site Inspections Prior to a Qualifying Event	Within 48 hours of a qualifying event [2]
BMP Inspections During an Extended Storm Event	Every 24-hour period of a rainevent [2]
Site Inspections Following a Qualifying Event	Within 48 hours of a qualifying event [2]

1 Most BMPs must be inspected weekly; those identified below must be inspected more frequently.
2 Inspections are only required during scheduled site operating hours. Note however, these inspections are required daily regardless of the amount of precipitation.

Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is incompliance with the requirements of the Construction General Permit.

Routine BMP Inspections

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

Rain-Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying rain event; following a qualifying rain event, and every 24-hour period during a qualifying rain event. Pre-rain inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50% or greater probability of precipitation has been predicted.

Visual Observations Prior to a Forecasted Qualifying Rain Event

Within 48-hours prior to a qualifying event a stormwater visual monitoring site inspection will include observations of the following locations:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

Consistent with guidance from the State Water Resources Control Board, pre-rain BMP inspections and visual monitoring will be triggered by a NOAA forecast that indicates a probability of precipitation of 50% or more in the project area.

BMP Inspections During an Extended Storm Event

During an extended rain event BMP inspections will be conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspection should record any projected maintenance activities.

Visual Observations Following a Qualifying Rain Event

Within 48 hours following a qualifying rain event (0.5 inches of rain) a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- Need for additional BMPs;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard; and
- Discharge of stored or contained rain water.

Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP or staff trained by and under the supervision of the QSP. The name(s) and contact number(s) of the site visual monitoring personnel are listed below and their training qualifications are provided in Appendix K.

Assigned inspector: NAME OF INSPECTOR Contact phone: TELEPHONE NUMBER

Alternate inspector: NAME OF INSPECTOR Contact phone: TELEPHONE NUMBER

Stormwater observations shall be documented on the Visual Inspection Field Log Sheet (see CSMP Attachment 3 “Example Forms”). BMP inspections shall be documented on the site specific BMP inspection checklist. Any photographs used to document observations will be referenced on stormwater site inspection report and maintained with the Monitoring Records in Attachment 2.

The QSP shall within 4 days of the inspection submit copies of the completed inspection report. The completed reports will be kept in CSMP Attachment 2 “Monitoring Records”.

Visual Monitoring Follow-Up and Reporting

Correction of deficiencies identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated and completed as soon as possible.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be initiated within 72 hours of identification and be completed as soon as possible. When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the Inspection Field Log Sheet or BMP Inspection Report and shall be submitted to the QSP and shall be kept in CSMP Attachment 2 “Monitoring Records”.

The QSP shall within 4 days of the inspection submit copies of the completed Inspection Field Log Sheet or BMP Inspection Report with the corrective actions.

Results of visual monitoring must be summarized and reported in the Annual Report.

Visual Monitoring Locations

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section by the awarded Contractor.

BMP locations are shown on the Site Maps in SWPPP Appendix A.

There are two drainage areas on the project site and the contractor's yard, staging areas, and storage areas. Drainage area is shown on the Site Maps in Appendix B and Table 7.2 identifies each drainage area by location.

Table 7.2 Site Drainage Areas

Location No.	Location
1	Loading Area
2	Storage Area

There is no stormwater storage or containment area(s) are on the project site.

There are two discharge location(s) on the project site. Site stormwater discharge location(s) are shown on the Grading and Erosion Control Sheets in Appendix B and Table 7.4 identifies each stormwater discharge location.

Table 7.3 Site Stormwater Discharge Locations

Location No.	Location
1	Loading Area
2	Storage Area

7.7 Water Quality Sampling and Analysis

Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project.

The Contractor will fill in all pertinent information, such as storage, use and operational locations, for the remainder of Section 7.

- Hot and Cold Mix Asphalt
- Cement and brick dust
- Colored chalks
- Concrete curing compounds
- Glazing compounds
- Surfaces cleaners
- Saw cut slurries
- Tile cutting
- Demolition of Existing Rails
- Portable Toilets
- Litter, Trash, Debris
- Equipment operation
- Equipment maintenance
- Equipment washing
- Equipment fueling

The following existing site features, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Locations of existing site features contaminated with non-visible pollutants will be designated and listed by the Contractor.

- None

The following soil amendments have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil and will be used on the project site. Locations of soil amendment application will be designated and listed by the Contractor.

- None

Sampling Schedule

Samples for the potential non visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non visible pollutants to surface waters or a storm drain system.

Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations will be designated by the Contractor and shown in Appendix B.

Monitoring Preparation

Non-visible pollutant samples will be collected by:

Contractor	☐ Yes	☐ No
Consultant	☐ Yes	☐ No
Laboratory	☐ Yes	☐ No

Samples on the project site will be collected by the following contractor sampling personnel:

Name/Telephone Number:
Alternate(s)/Telephone Number:

An adequate stock of monitoring supplies and equipment for monitoring non visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder free nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re sealable storage bags, paper towels, personal rain gear, ice, and Effluent Sampling Field Log Sheets and Chain of Custody (CoC) forms, which are provided in CSMP Attachment 3 “Example Forms”.

or

Samples on the project site will be collected by the following [specify laboratory or environmental consultant]:
Company Name:

Street Address:

City, State Zip:

Telephone Number:

Point of Contact:

Name of Sampler(s):

Name of Alternate(s):

The QSP or his/her designee will contact [specify name of laboratory or environmental consultant] 24 hours prior to a predicted rain event or for an unpredicted event, as soon as a rain event begins if one of the triggering conditions is identified during an inspection to ensure that adequate sample collection personnel and supplies for monitoring non visible pollutants are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule.

This will be determined by the Contractor.

Analytical Constituents

Table 7.4 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

Table 7.4 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

Pollutant Source	Pollutant	Water Quality Indicator Constituent
Asphalt Work	Hot and Cold Mix Asphalt	VOCs
Concrete / Masonry	Sealant	SVOC
	Curing compounds	VOCs, SVOCs, pH
	Ash, slag, sand	pH, Al, Ca, Va, Zn
Removal of Existing Structures	Demolition of Existing Rails	Zn, VOCs, PCBs (see also other applicable activity categories, e.g., grading, painting)
Vehicle and Equipment Use	Batteries	Sulfuric acid, Pb, pH

Sample Collection

Samples of discharge shall be collected at the designated non visible pollutant sampling locations identified by the Contractor shown Appendix B or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table, “Sample Collection, Preservation and Analysis for Monitoring Non Visible Pollutants” provided. Only the QSP, or personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements will be determined by the Contractor.

Samples shall be analyzed using the analytical methods identified in the Table 7.5.

Samples will be analyzed by:

Laboratory Name:
Street Address:
City, State Zip:
Telephone Number:
Point of Contact:
ELAP Certification Number:

Samples will be delivered to the laboratory by:

Driven by Contractor	☐Yes	☐No
Picked up by Laboratory Courier	☐Yes	☐No
Shipped	☐Yes	☐No

Table 7.5 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Reporting Limit	Maximum Holding Time
Notes:						

Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results.

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

The General Permit prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous

substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

Results of non visible pollutant monitoring shall be reported in the Annual Report.

Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges

Sampling and analysis of runoff for pH and turbidity is not required for Risk Level 1 projects.

Additional Monitoring Following an NEL Exceedance

This project is not subject to NELs.

Sampling and Analysis Plan for Non-Stormwater Discharges

This project is not subject to the non stormwater sampling and analysis requirements of the General Permit because it is a Risk Level 1 project.

Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board

The Regional Water Board has not specified monitoring for additional pollutants.

Training of Sampling Personnel

Sampling personnel shall be trained to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring program (SWAMP) 2008 Quality Assurance Program Plan (QAPrP). Training records of designated contractor sampling personnel will be provided by the Contractor and included in Appendix I.

The stormwater sampler(s) and alternate(s) have received the following stormwater sampling training:

Name		Training
	(LIST)	
	(LIST)	

The stormwater sampler(s) and alternates have the following stormwater sampling experience:

Name		Experience
	(LIST)	
	(LIST)	

Sample Collection and Handling

Sample Collection

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the SWAMP 2008 Quality Assurance Program Plan (QAPrP).

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel shall follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sites;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers;
- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

i. For small streams and flow paths, simply dip the bottle facing upstream until full.

ii. For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.

iii. For larger streams that cannot be safely waded, pole samplers may be needed to safely access the representative flow.

iv. Avoid collecting samples from ponded, sluggish or stagnant water.

v. Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should never be dipped into the stream, but filled indirectly from the collection container.

Sampling Handling

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels;
- Sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the Effluent Sampling Field Log Sheet; and
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

Laboratory Name:

Address:

City, State Zip:

Telephone Number:

Point of Contact:

Sample Documentation Procedures

All original data documented on sample bottle identification labels, Effluent Sampling Field Log Sheet, and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the Effluent Sampling Field Log Sheet.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location.

Field Log Sheets: Sampling personnel shall complete the Effluent Sampling Field Log Sheet and Receiving Water Sampling Field Log Sheet for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC when the sample(s) is turned over to the testing laboratory or courier.

7.8 Active Treatment System Monitoring

An Active Treatment System (ATS) will be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for an ATS because deployment of an ATS is not planned.

7.9 Bioassessment Monitoring

This project is not subject to bioassessment monitoring because it is not a Risk Level 3 project.

7.10 Watershed Monitoring Option

This project is not participating in a watershed monitoring option.

7.11 Quality Assurance and Quality Control

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- CoCs;
- QA/QC Samples; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log, an Effluent Sampling Field Log Sheet, are included in CSMP Attachment 3 “Example Forms”.

Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder free nitrile gloves during sample collection and handling. As discussed in Section 7.7, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in CSMP Attachment 3 “Example Forms”.

QA/QC Samples

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. The following types of QA/QC will be conducted for this project:

☐ Field Duplicates at a frequency of [5 percent or 1 duplicate minimum per sampling event]
(Required for all sampling plans with field measurements or laboratory analysis)

☐ Equipment Blanks at a frequency of [Insert frequency required by method]
(Only needed if equipment used to collect samples could add the pollutants to sample)

☐ Field Blanks at a frequency of [Insert frequency required by method]
(Only required if sampling method calls for field blanks)

☐ Travel Blanks at a frequency of [Insert frequency required by method]
(Required for sampling plans that include VOC laboratory analysis)

Field Duplicates

Field duplicates provide verification of laboratory or field analysis and sample collection. Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

Equipment Blanks

Equipment blanks provide verification that equipment has not introduced a pollutant into the sample. Equipment blanks are typically collected when:

- New equipment is used;
- Equipment that has been cleaned after use at a contaminated site;
- Equipment that is not dedicated for surface water sampling is used; or
- Whenever a new lot of filters is used when sampling metals.

Field Blanks

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ioninzed water field blanks are taken to the field, transferred to the appropriate container, and treated the same as the corresponding sample type during the course of a sampling event.

Data Verification

After results are received from the analytical laboratory, the QSP shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports.

Make sure all requested analyses were performed and all samples are accounted for in the reports.

- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory.

Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. The QSP should especially note data that is an order of magnitude or more different than similar locations, or is inconsistent with previous data from the same location.

- Check laboratory QA/QC results.

EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.

- Check the data set for outlier values and, accordingly, confirm results and re analyze samples where appropriate.

Sample re analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.

Field data including inspections and observations must be verified as soon as the field logs are received, typically at the end of the sampling event. Field data verification shall include:

- Check field logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent;

Follow up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;

- Verify equipment calibrations;
- Review observations noted on the field logs; and
- Review notations of any errors and actions taken to correct the equipment or recording errors.

7.12 Records Retention

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exemption records;
- The records of any corrective actions and follow up activities that resulted from analytical results, visual observations, or inspections.

CSMP Attachment 1.
Weather Reports

Place printed NOAA weather forecasts in this Attachment.

CSMP Attachment 2.
Monitoring Records

Place completed BMP Inspection Forms, Visual Monitoring, and Effluent Sampling and Receiving Water Field Logs, Monitoring Exceptions, and NAL/NEL Exceedance Reports (if applicable) in this Attachment.

CSMP Attachment 3.
Example Forms

Place example forms and check lists, e.g., Rain Gauge Logs and Field Logs, NAL/NEL Exceedance Reports, CoCs (if applicable), in this Attachment.

CSMP Attachment 3.

Rain Gauge Log Sheet				
Construction Site Name:				
WDID #:				
Date (mm/dd/yy)	Time (24-Hour)	Initials	Rainfall Depth (inches)	Notes

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection:				Report Date:		
Inspection Type:	☐ Weekly	☐ Before predicted rain	☐ During rain event	☐ Following qualifying rain event	☐ Contained stormwater release	☐ Quarterly non-stormwater

Site Information

Construction Site Name:	
Construction stage and completed activities:	Approximate area of exposed site:

Weather and Observations

Date Rain Predicted to Occur:		Predicted % chance of rain:	
Estimate storm beginning: _____ (date and time)	Estimate storm duration:_____ (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: _____ (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☐
Floating material	Yes ☐	No ☐
Suspended Material	Yes ☐	No ☐
Sheen	Yes ☐	No ☐
Discolorations	Yes ☐	No ☐
Turbidity	Yes ☐	No ☐

Site Inspections

Outfalls or BMPs Evaluated	**Deficiencies Noted**
(add additional sheets or attached detailed BMP Inspection Checklists)	

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name:	Inspector Title:
Signature:	Date:

Discharge Log

Project Name: **Yermo, California Classification Yard**

Project WDID No.: To be determined

Date	Discharge Pt. No.	Brief Description of Discharge	Inspector

CSMP Attachment 4.
Field Meter Instructions

Place instructions for field meters that will be used by contractor personnel in this Attachment.

CSMP Attachment 5.
Supplemental Information

Place documents related to Regional Board required monitoring, watershed monitoring option approval, and bioassessment exception approval in this Attachment.

8.0 References

Project Plans and Specifications Dried Distilled Gran Transload Facility, 90% Design, dated March 4, 2011, prepared by [entity preparing plans and specifications]

State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

State Water Resources Control Board (2010). Order 2010-0014-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

CASQA 2009, Stormwater BMP Handbook Portal: Construction, November 2009, www.casqa.org

Appendix A.
Construction General Permit

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board
Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5455
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5463 • http://www.waterboards.ca.gov

Arnold Schwarzenegger
Governor

CONSTRUCTION GENERAL PERMIT FACT SHEET TABLE OF CONTENTS

I. BACKGROUND 1

A. History 1

B. Legal Challenges and Court Decisions 1

C. Blue Ribbon Panel of Experts and Feasibility of Numeric Effluent Limitations 3

D. Summary of Panel Findings on Construction Activities 4

E. How the Panel's Findings are Used in this General Permit 5

F. Summary of Significant Changes in This General Permit 5

II. RATIONALE 7

A. General Permit Approach 7

B. Construction Activities Covered 7

C. Construction Activities Not Covered 9

D. Obtaining and Terminating Permit Coverage 11

E. Discharge Prohibitions 12

F. Effluent Standards for All Types of Discharges 13

G. Receiving Water Limitations 20

H. Training Qualifications and Requirements 21

I. Sampling, Monitoring, Reporting and Record Keeping 21

J. Risk Determination 28

K. ATS Requirements 36

L. Post-Construction Requirements 37

M. Storm Water Pollution Prevention Plans 45

N. Regional Water Board Authorities 47

LIST OF TABLES

Table 1 - Regional Water Board Basin Plans, Water Quality Objectives for Turbidity 15
Table 2 - Results of Ecoregion Analysis 16
Table 3 – ACL Sampling Data taken by Regional Water Board Staff 17
Table 4 - Required Monitoring Elements for Risk Levels 21
Table 5 - Storm Water Effluent Monitoring Requirements by Risk Level 23
Table 6 - Receiving Water Monitoring Requirements 26
Table 7 - Combined Risk Level Matrix 30
Table 8 -National Oceanic and Atmospheric Administration (NOAA) Definition of Probability of Precipitation (PoP) 32
Table 9 - Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria 46

LIST OF FIGURES

Figure 1 -Statewide Map of K * LS 29
Figure 2 - Suite of Storm Events 38
Figure 3 - Northern CA (2009) Counties / Cities With SUSMP-Plus Coverage 39
Figure 4 - Southern CA (2009) Counties / Cities With SUSMP-Plus Coverage 40
Figure 5 - Schematic of the Lane Relationship 42
Figure 6 - Channel Changes Associated with Urbanization 43

I. BACKGROUND

A. History

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre.

While federal regulations allow two permitting options for storm water discharges (Individual Permits and General Permits), the State Water Board has elected to adopt only one statewide General Permit at this time that will apply to most storm water discharges associated with construction activity.

On August 19, 1999, the State Water Board reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the State Water Board amended Order 99-08-DWQ to apply to sites as small as one acre.

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the administrative burden associated with permitting individual storm water discharges. To obtain coverage under this General Permit, dischargers shall electronically file the Permit Registration Documents (PRDs), which includes a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance related documents required by this General Permit and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Quality Control Boards (Regional Water Boards) may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers.

B. Legal Challenges and Court Decisions

1. Early Court Decisions

Shortly after the passage of the CWA, the USEPA promulgated regulations exempting most storm water discharges from the NPDES permit requirements. (See 40 C.F.R. § 125.4 (1975); see also *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1372 (*Costle*); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*).) When environmental groups challenged this exemption in federal court, the District of Columbia Court of Appeals invalidated the regulation, holding that the USEPA "does not have authority to exempt categories of point sources from the permit requirements of [CWA] § 402." (*Costle*, 568 F.2d at 1377.) The *Costle* court rejected the USEPA's argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at 1377-82.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the USEPA had the flexibility under the CWA to design regulations that would overcome these problems. (*Id.* at 1379-83.) In particular, the court pointed to general permits and permits based on requiring best management practices (BMPs).

During the next 15 years, the USEPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (See *Defenders of Wildlife*, 191 F.3d at 1163; see also Gallagher, Clean Water Act in Environmental Law Handbook (Sullivan, edit., 2003)
p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Storm Water Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L.1, 40-41 [Regulation of Urban Storm Water Runoff].)

In 1987, Congress amended the CWA to require NPDES permits for storm water discharges. (See CWA § 402(p), 33 U.S.C. § 1342(p); *Defenders of Wildlife,* 191 F.3d at 1163; *Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to industrial storm water discharges, Congress provided that NPDES permits "shall meet all applicable provisions of this section and section 1311 [requiring the USEPA to establish effluent limitations under specific timetables]." (CWA § 402(p)(3)(A), 33 U.S.C. § 1342(p)(3)(A); see also *Defenders of Wildlife,* 191 F.3d at 1163-64.)

In 1990, USEPA adopted regulations specifying what activities were considered “industrial” and thus required discharges of storm water associated with those activities to obtain coverage under NPDES permits. (55 Fed. Reg. 47,990 (1990); 40 C.F.R. § 122.26(b)(14).) Construction activities, deemed a subset of the industrial activities category, must also be regulated by an NPDES permit. (40 C.F.R. § 122.26(b)(14)(x)). In 1999, USEPA issued regulations for “Phase II” of storm water regulation, which required most small construction sites (1-5 acres) to be regulated under the NPDES program. (64 Fed. Reg. 68,722; 40 C.F.R. § 122.26(b)(15)(i).)

2. Court Decisions on Public Participation

Two recent federal court opinions have vacated USEPA rules that denied meaningful public review of NPDES permit conditions. On January 14, 2003, the Ninth Circuit Court of Appeals held that certain aspects of USEPA’s Phase II regulations governing MS4s were invalid primarily because the general permit did not contain express requirements for public participation. (*Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832.) Specifically, the court determined that applications for general permit coverage (including the Notice of Intent (NOI) and Storm Water Management Program (SWMP)) must be made available to the public, the applications must be reviewed and determined to meet the applicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. (*Id.* at 852-54.) Similarly, on February 28, 2005, the Second Circuit Court of Appeals held that the USEPA's confined animal feeding operation (CAFO) rule violated the CWA because it allowed dischargers to write their own nutrient management plans without public review. (*Waterkeeper Alliance v. USEPA* (2d Cir. 2005) 399 F.3d 486.) Although neither decision involved the issuance of construction storm water permits, the State Water Board’s Office of Chief Counsel has recommended that the new General Permit address the courts’ rulings where feasible[1].

[1] In *Texas Independent Producers and Royalty Owners Assn. v. USEPA* (7th Cir. 2005) 410 F.3d 964, the Seventh Circuit Court of Appeals held that the USEPA’s construction general permit was not required to provide the public with the opportunity for a public hearing on the Notice of Intent or Storm Water Pollution Prevention Plan. The Seventh Circuit briefly discussed why it agreed with the Ninth Circuit’s dissent in *Environmental Defense Center*, but generally did not discuss the substantive holdings in *Environmental Defense Center* and *Waterkeeper Alliance*, because neither court addressed the initial question of whether the plaintiffs had standing to challenge the permits at issue. However, notwithstanding the Seventh Circuit’s decision, it is not binding or controlling on the State Water Board because California is located within the Ninth Circuit.

The CWA and the USEPA's regulations provide states with the discretion to formulate permit terms, including specifying best management practices (BMPs), to achieve strict compliance with federal technology-based and water quality-based standards. (*Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308.) Accordingly, this General Permit has developed specific BMPs as well as numeric action levels (NALs) and numeric effluent limitations (NELs) in order to achieve these minimum federal standards. In addition, the General Permit requires a SWPPP and REAP (another dynamic, site-specific plan) to be developed but has removed all language requiring the discharger to implement these plans – instead, the discharger is required to comply with specific requirements. By requiring the dischargers to implement these specific BMPs, NALs, and NELs, this General Permit ensures that the dischargers do not "write their own permits." As a result this General Permit does not require each discharger's SWPPP and REAP to be reviewed and approved by the Regional Water Boards.

This General Permit also requires dischargers to electronically file all permit-related compliance documents. These documents include, but are not limited to, NOIs, SWPPPs, annual reports, Notice of Terminations (NOTs), and numeric action level (NAL) exceedance reports. Electronically submitted compliance information is immediately available to the public, as well as the Regional Water Quality Control Board (Regional Water Board) offices, via the Internet. In addition, this General Permit enables public review and hearings on permit applications when appropriate. Under this General Permit, the public clearly has a meaningful opportunity to participate in the permitting process.

C. Blue Ribbon Panel of Experts and Feasibility of Numeric Effluent Limitations

In 2005 and 2006, the State Water Board convened an expert panel (panel) to address the feasibility of numeric effluent limitations (NELs) in California's storm water permits. Specifically, the panel was asked to address:

"Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required?"

"The answers should address industrial general permits, construction general permits, and area-wide municipal permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria. In evaluating establishment of any objective criteria, the panel should address all of the following:

The ability of the State Water Board to establish appropriate objective limitations or criteria;

How compliance determinations would be made;

The ability of dischargers and inspectors to monitor for compliance; and

The technical and financial ability of dischargers to comply with the limitations or criteria."

Through a series of public participation processes (State Water Board meetings, State Water Board workshops, and the solicitation of written comments), a number of water quality, public process and overall program effectiveness problems were identified. Some of these problems are addressed through this General Permit.

D. Summary of Panel Findings on Construction Activities

The panel's final report can be downloaded and viewed through links at www.waterboards.ca.gov or by clicking here[2].

The panel made the following observations:

"Limited field studies indicate that traditional erosion and sediment controls are highly variable in performance, resulting in highly variable turbidity levels in the site discharge."

"Site-to-site variability in runoff turbidity from undeveloped sites can also be quite large in many areas of California, particularly in more arid regions with less natural vegetative cover and steep slopes."

"Active treatment technologies involving the use of polymers with relatively large storage systems now exist that can provide much more consistent and very low discharge turbidity. However, these technologies have as yet only been applied to larger construction sites, generally five acres or greater. Furthermore, toxicity has been observed at some locations, although at the vast majority of sites, toxicity has not occurred. There is also the potential for an accidental large release of such chemicals with their use."

"To date most of the construction permits have focused on TSS and turbidity, but have not addressed other, potentially significant pollutants such as phosphorus and an assortment of chemicals used at construction sites."

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

"The quality of storm water discharges from construction sites that effectively employ BMPs likely varies due to site conditions such as climate, soil, and topography."

"The States of Oregon and Washington have recently adopted similar concepts to the Action Levels described earlier."

In addition, the panel made the following conclusions:

"It is the consensus of the Panel that active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with storm water discharges from construction sites (e.g. TSS and turbidity) for larger construction sites. Technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a larger site, as these technologies have seen limited use at small construction sites. If chemical addition is not permitted, then Numeric Limits are not likely feasible."

"The Board should consider Numeric Limits or Action Levels for other pollutants of relevance to construction sites, but in particular pH. It is of particular concern where fresh concrete or wash water from cement mixers/equipment is exposed to storm water."

"The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond."

[2] http://www.waterboards.ca.gov/stormwtr/docs/numeric/swpanel_final_report.pdf

E. How the Panel's Findings are Used in this General Permit

The State Water Board carefully considered the findings of the panel and related public comments. The State Water Board also reviewed and considered the comments regarding statewide storm water policy and the reissuance of the Industrial General Permit. From the input received the State Water Board identified some permit and program performance gaps that are addressed in this General Permit. The Summary of Significant Changes (below) in this General Permit are a direct result of this process.

F. Summary of Significant Changes in This General Permit

The State Water Board has significant changes to Order 99-08-DWQ. This General Permit differs from Order 99-08-DWQ in the following significant ways:

Rainfall Erosivity Waiver: this General Permit includes the option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their site's given location and time frame compute to be less than or equal to 5.

Technology-Based Numeric Action Levels: this General Permit includes NALs for pH and turbidity.

Technology-Based Numeric Effluent Limitations: this General Permit contains daily average NELs for pH during any construction phase where there is a high risk of pH discharge and daily average NELs turbidity for all discharges in Risk Level 3. The daily average NEL for turbidity is set at 500 NTU to represent the minimum technology that sites need to employ (to meet the traditional Best Available Technology Economically Achievable (BAT)/ Best Conventional Pollutant Control Technology (BCT) standard) and the traditional, numeric receiving water limitations for turbidity.

Risk-Based Permitting Approach: this General Permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: 1) Project Sediment Risk, and 2) Receiving Water Risk.

Minimum Requirements Specified: this General Permit imposes more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.

Project Site Soil Characteristics Monitoring and Reporting: this General Permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.

Effluent Monitoring and Reporting: this General Permit requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to determine compliance with the NELs and evaluate whether NALs included in this General Permit are exceeded.

Receiving Water Monitoring and Reporting: this General Permit requires some Risk Level 3 dischargers to monitor receiving waters and conduct bioassessments.

Post-Construction Storm Water Performance Standards: this General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate post-construction storm water runoff impacts.

Rain Event Action Plan: this General Permit requires certain sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.

Annual Reporting: this General Permit requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance

with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information.

Certification/Training Requirements for Key Project Personnel: this General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with General Permit requirements.

Linear Underground/Overhead Projects: this General Permit includes requirements for all Linear Underground/Overhead Projects (LUPs).

II. RATIONALE

A. General Permit Approach

A general permit for construction activities is an appropriate permitting approach for the following reasons:

1. A general permit is an efficient method to establish the essential regulatory requirements for a broad range of construction activities under differing site conditions;

2. A general permit is the most efficient method to handle the large number of construction storm water permit applications;

3. The application process for coverage under a general permit is far less onerous than that for individual permit and hence more cost effective;

4. A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the CWA in designing a workable and efficient permitting system; and

5. A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are sufficiently similar, and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges. In most cases, the general permit will provide sufficient and appropriate management requirements to protect the quality of receiving waters from discharges of storm water from construction sites.

There may be instances where a general permit is not appropriate for a specific construction project. A Regional Water Board may require any discharger otherwise covered under the General Permit to apply for and obtain an Individual Permit or apply for coverage under a more specific General Permit. The Regional Water Board must determine that this General Permit does not provide adequate assurance that water quality will be protected, or that there is a site-specific reason why an individual permit should be required.

B. Construction Activities Covered

1. **Construction activity subject to this General Permit:**

Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale of one or more acres of disturbed land surface.

Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.

Construction activity associated with LUPs including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete

and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[3]

Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction[4] (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction projects that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the project.

2. Linear Underground/Overhead Projects (LUPs) subject to this General Permit:

Underground/overhead facilities typically constructed as LUPs include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Water Quality Order 2003-0007-DWQ regulated construction activities associated with small LUPs that resulted in land disturbances greater than one acre, but less than five acres. These projects were considered non-traditional construction projects. Attachment A of this Order now regulates all construction activities from LUPs resulting in land disturbances greater than one acre.

3. Common Plan of Development or Sale

USEPA regulations include the term “common plan of development or sale” to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an exact definition of “common plan of development or sale,” the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. An overbroad interpretation of the term would render meaningless the clear “one acre” federal permitting threshold and would potentially trigger permitting of

---

[3] Pursuant to the Ninth Circuit Court of Appeals’ decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA’s petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

[4] A construction site that includes a dredge and/or fill discharge to any water of the United States (e.g., wetland, channel, pond, or marine water) requires a CWA Section 404 permit from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the Regional Water Board or State Water Board.

almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

Construction projects generally receive grading and/or building permits (Local Permits) from local authorities prior to initiating construction activity. These Local Permits spell out the scope of the project, the parcels involved, the type of construction approved, etc. Referring to the Local Permit helps define "common plan of development or sale." In cases such as tract home development, a Local Permit will include all phases of the construction project including rough grading, utility and road installation, and vertical construction. All construction activities approved in the Local Permit are part of the common plan and must remain under the General Permit until construction is completed. For custom home construction, Local Permits typically only approve vertical construction as the rough grading, utilities, and road improvements were already independently completed under the a previous Local Permit. In the case of a custom home site, the homeowner must submit plans and obtain a distinct and separate Local Permit from the local authority in order to proceed. It is not the intent of the State Water Board to require permitting for an individual homeowner building a custom home on a private lot of less than one acre if it is subject to a separate Local Permit. Similarly, the installation of a swimming pool, deck, or landscaping that disturbs less than one acre that was not part of any previous Local Permit are not required to be permitted.

The following are several examples of construction activity of less than one acre that would require permit coverage:

a. A landowner receives a building permit(s) to build tract homes on a 100-acre site split into 200 one-third acre parcels, (the remaining acreage consists of streets and parkways) which are sold to individual homeowners as they are completed. The landowner completes and sells all the parcels except for two. Although the remaining two parcels combined are less than one acre, the landowner must continue permit coverage for the two parcels.

b. One of the parcels discussed above is sold to another owner who intends to complete the construction as already approved in the Local Permit. The new landowner must file Permit Registration Documents (PRDs) to complete the construction even if the new landowner is required to obtain a separate Local Permit.

c. Landowner in (1) above purchases 50 additional one half-acre parcels adjacent to the original 200-acre project. The landowner seeks a Local Permit (or amendment to existing Local permit) to build on 20 parcels while leaving the remaining 30 parcels for future development. The landowner must amend PRDs to include the 20 parcels 14 days prior to commencement of construction activity on those parcels.

C. Construction Activities Not Covered

1. Traditional Construction Projects Not Covered

This General Permit does not apply to the following construction activity:

a. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

b. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

c. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

d. Discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction projects in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit. Construction projects within the Lahontan region must also comply with the Lahontan Region Project Guideline for Erosion Control (R6T-2005-0007 Section), which can be found at **http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t_2005_0007.pdf**

e. Construction activity that disturbs less than one acre of land surface, unless part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

f. Construction activity covered by an individual NPDES Permit for storm water discharges.

g. Landfill construction activity that is subject to the Industrial General Permit.

h. Construction activity that discharges to Combined Sewer Systems.

i. Conveyances that discharge storm water runoff combined with municipal sewage.

j. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

2. **Linear Projects Not Covered**

a. LUP construction activity does not include linear routine maintenance projects. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements, or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

i. Maintain the original purpose of the facility or hydraulic capacity.

ii. Update existing lines[5] and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.

iii. Repairing leaks.

Routine maintenance does not include construction of new[6] lines or facilities resulting from compliance with applicable codes, standards, and regulations.

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must secure new areas,

[5]Update existing lines includes replacing existing lines with new materials or pipes.
[6]New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

b. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

c. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered construction activities where all other LUP construction activities associated with the tie-in are covered by an NOI and SWPPP of a third party or municipal agency.

3. **EPA's Small Construction Rainfall Erosivity Waiver**

EPA's Storm Water Phase II Final Rule provides the option for a Small Construction Rainfall Erosivity Waiver. This waiver applies to small construction sites between 1 and 5 acres, and allows permitting authorities to waive those sites that do not have adverse water quality impacts.

Dischargers eligible for this waiver are exempt from Construction General Permit Coverage. In order to obtain the waiver, the discharger must certify to the State Water Board that small construction activity will occur only when the rainfall erosivity factor is less than 5 ("R" in the Revised Universal Soil Loss Equation). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a practice that provides interim non-vegetative stabilization can be used for the end of the construction period. The operator must agree (as a condition waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the General Permit have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with a certification statement constitutes acceptance of and commitment to complete the final stabilization process. The discharger must submit a waiver certification to the State Board prior to commencing construction activities.

USEPA funded a cooperative agreement with Texas A&M University to develop an online rainfall erosivity calculator. Dischargers can access the calculator from EPA's website at: www.epa.gov/npdes/stormwater/cgp. Use of the calculator allows the discharger to determine potential eligibility for the rainfall erosivity waiver. It may also be useful in determining the time periods during which construction activity could be waived from permit coverage.

D. Obtaining and Terminating Permit Coverage

The appropriate Legally Responsible Person (LRP) must obtain coverage under this General Permit. To obtain coverage, the LRP or the LRP's Approved Signatory must file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

To obtain coverage under this General Permit, LRPs must electronically file the PRDs, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Boards may issue General Permits or Individual Permits that contain more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers that obtain coverage under Individual Permits.

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

The application requirements of the General Permit establish a mechanism to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the General Permit's requirements.

This General Permit provides a grandfathering exception to existing dischargers subject to Water Quality Order No. 99-08-DWQ. Construction projects covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at Risk Level 1. LUP projects covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage at LUP Type 1. The Regional Water Boards have the authority to require Risk Determination to be performed on projects currently covered under Water Quality Order No. 99-08-DWQ and 2003-0007-DWQ where they deem necessary.

LRPs must file a Notice of Termination (NOT) with the Regional Water Board when construction is complete and final stabilization has been reached or ownership has been transferred. The discharger must certify that all State and local requirements have been met in accordance with this General Permit. In order for construction to be found complete, the discharger must install post-construction storm water management measures and establish a long-term maintenance plan. This requirement is intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream and downstream. Specifically, the discharger must demonstrate compliance with the post-construction standards set forth in this General Permit (Section XIII). The discharger is responsible for all compliance issues including all annual fees until the NOT has been filed and approved by the local Regional Water Board.

E. Discharge Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land, provided that the discharger satisfies all permit conditions set forth in the Order. This General Permit prohibits the discharge of pollutants other than storm water and non-storm water discharges authorized by this General Permit or another NPDES permit. This General Permit also prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the nine Regional Water Boards. Discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural BMPs. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction projects. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water dewatering, and other discharges not subject to a separate general NPDES permit adopted by a region. Therefore this General Permit authorizes such discharges provided they meet the following conditions.

These authorized non-storm water discharges must:

1. be infeasible to eliminate;

2. comply with BMPs as described in the SWPPP;

3. filter or treat, using appropriate technology, all dewatering discharges from sedimentation basins;

4. meet the NELs and NALs for pH and turbidity; and

5. not cause or contribute to a violation of water quality standards.

Additionally, authorized non-storm water discharges must not be used to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. Authorized non-storm water dewatering discharges may require a permit because some Regional Water Boards have adopted General Permits for dewatering discharges.

This General Permit prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance.

F. Effluent Standards for All Types of Discharges

1. Technology-Based Effluent Limitations

Permits for storm water discharges associated with construction activity must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) for toxic pollutants and non conventional pollutants and best conventional pollutant control technology (BCT) for conventional pollutants. Additionally, these provisions require controls of pollutant discharges to reduce pollutants and any more stringent controls necessary to meet water quality standards. The USEPA has already established such limitations, known as effluent limitation guidelines (ELGs), for some industrial categories. This is not the case with construction discharges. In instances where there are no ELGs the permit writer is to use best professional judgment (BPJ) to establish requirements that the discharger must meet using BAT/BCT technology. This General Permit contains both narrative effluent limitations and new numeric effluent limitations for pH and turbidity, set using the best professional judgment (BPJ) equivalent to BAT and BCT (respectively).

BAT/BCT technologies not only include passive systems such as conventional runoff and sediment control, but also treatment systems such as coagulation/flocculation using sand filtration, when appropriate. Such technologies allow for effective treatment of soil particles less 0.02 mm (medium silt) in diameter. The discharger must install structural controls, as necessary, such as erosion and sediment controls that meet BAT and BCT to achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

The numeric effluent limitations for pH and turbidity are based upon BPJ, which authorizes the State Water Board to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of this Chapter" (CWA § 402(a)(1), 33 U.S.C. § 1342(a)(1).) Because the USEPA has not yet issued an effluent limit guideline for storm water, the State Water Board must use BPJ to consider the appropriate technology for the category or class of point sources, based upon all available information and any unique factors relating to the sources. In addition, the permitting authority must consider a number of factors including the cost of achieving effluent reductions in relation to the effluent reduction benefits, the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and other such other factors as the State Water Board deems appropriate (CWA 304(b)(1)(B)).

Because the permit is an NPDES permit, there is no legal requirement to address the factors set forth in Water Code sections 13241 and 13263, unless the permit is more stringent than what federal law requires. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 627.) None of the requirements in this permit are more stringent than the minimum federal requirements, which include technology-based requirements achieving BAT/BCT and strict compliance with water quality standards. The inclusion of numeric effluent limitations (NELs) in the permit do not cause the permit to be

more stringent than current federal law. NELs and best management practices are simply two different methods of achieving the same federal requirement: strict compliance with state water quality standards. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The use of NELs to achieve compliance with water quality standards is not a more stringent requirement than the use of BMPs. (State Water Board Order No. WQ 2006-0012 (*Boeing*).) Accordingly, the State Water Board does not need to take into account the factors in Water Code sections 13241 and 13263.

The State Water Board has concluded that the establishment of BAT/BCT will not create or aggravate other environmental problems through increases in air pollution, solid waste generation, or energy consumption. While there may be a slight increase in non-water quality impacts due to the implementation of additional monitoring or the construction of additional BMPs, these impacts will be negligible in comparison with the construction activities taking place on site and would be justified by the water quality benefits associated with compliance.

Considerations related to the processes employed and the changes necessitated by the adoption of the BAT/BCT effluent limits have been assessed throughout the stakeholder process (e.g., the Blue Ribbon Panel and the March 2007 preliminary draft) and are discussed in detail in Section I.C of this Fact Sheet. The following sections set forth the engineering aspects of the control technologies and the rationale for the determination of the numeric effluents for pH and turbidity.

In consideration of the costs for the establishment of BAT and BCT limits for pH and turbidity, existing requirements for the control of storm water pollution from construction sites have been established by USEPA and the previous Construction General Permit (State Water Board Order No. 99-08-DWQ) issued by the State Water Board. The General Permit establishes one, consistent set of performance standards for all levels and types of discharges (i.e., risk, linear utility, and ATS).The only difference is that for each level or type of discharge there may be more or less specific effluent limitations (e.g., the addition of numeric effluent limitations for turbidity applies to level/type 3 discharges). And the numeric effluent limitations themselves represent a minimum technology standard. In other words, the additional numeric effluent limitations, compared to the existing permit's narrative effluent limitations, do not increase compliance requirements; rather, they simply represent a point where one can quantitatively measure compliance with the lower end of the range of required technologies. Therefore, the compliance costs associated with the BAT/BCT numeric effluent limitations in this permit only differ by the costs required to measure compliance with the NELs when compared to the baseline compliance costs to comply with the limitations already established through EPA regulations and the existing Construction General Permit.

The State Water Board estimates these measurement costs to be approximately $1000 per construction site for the duration of the project. This represents the estimated cost of purchasing (or renting) monitoring equipment, in this case a turbidimeter (~$600) and a pH meter (~$400). In some cases the costs may be higher or lower. Costs could be lower if the discharger chooses to design and implement the project in a manner where effluent monitoring is likely to be avoided (e.g., no exposure during wet weather seasons, no discharge due to containment, etc.). Costs could be more if the project is subject to many effluent monitoring events or if the discharger exceeds NALs and/or NELs, resulting in additional monitoring requirements.

i. ***pH NEL***

Given the potential contaminants, the minimum standard method for control of pH in runoff requires the use of preventive measures such as avoiding concrete pours during rainy weather, covering concrete and directing flow away from fresh concrete if a pour occurs during rain, covering scrap drywall and stucco materials when stored outside and potentially exposed to rain, and other housekeeping measures. If necessary, pH-impaired storm water from construction sites can be treated in a filter or settling pond or basin, with additional natural or chemical treatment required to meet pH limits set forth in this permit. The basin or pond acts as a collection point and holds storm water for a sufficient period for the contaminants to be settled out, either naturally or artificially, and allows any additional treatment to take place. The State Water Board considers these techniques to be equivalent to BCT. In determining the pH

concentration limit for discharges, the State Water Board used BPJ to set these limitations.

The chosen limits were established by calculating three standard deviations above and below the mean pH of runoff from highway construction sites[7] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.0 to 9.0 pH Units.

ii. ***Turbidity NEL***

The Turbidity NEL of 500 NTU is a technology-based numeric effluent limitation and was developed using three different analyses aimed at finding the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality and cost-effectiveness. The analyses fell into three, main types: (1) an ecoregion-specific dataset developed by Simon et. al. (2004) [8]; (2) Statewide Regional Water Quality Control Board enforcement data; and (3) published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites.

A 1:3 relationship between turbidity (expressed as NTU) and suspended sediment concentration (expressed as mg/L) is assumed based on a review of suspended sediment and turbidity data from three gages used in the USGS National Water Quality Assessment Program:

USGS 11074000 SANTA ANA R BL PRADO DAM CA
USGS 11447650 SACRAMENTO R A FREEPORT CA
USGS 11303500 SAN JOAQUIN R NR VERNALIS CA

The turbidity NEL represents a feasible and cost effective performance standard that is demonstrated to be achievable. Although data has been collected to demonstrate that lower effluent levels may be achievable at some sites, staff cannot conclude at this time that a lower NEL is achievable within all the ecoregions of the state. The NEL represents staff determination that the NEL is the most practicable based on available data. The turbidity NEL represents a bridge between the narrative effluent limitations and receiving water limitations. The NEL limit may be considered an interim performance standard as additional data becomes available for evaluation during the next permit cycle. To support this NEL, State Water Board staff analyzed construction site discharge information (monitoring data, estimates) and receiving water monitoring information.

Since the turbidity NEL represents an appropriate threshold level expected at a site, compliance with this value does not necessarily represent compliance with either the narrative effluent limitations (as enforced through the BAT/BCT standard) or the receiving water limitations. In the San Diego region, some inland surface waters have a receiving water objective for turbidity equal to 20 NTU. Obviously a discharge up to, but not exceeding, the turbidity NEL of 500 NTU may still cause or contribute to the exceedance of the 20 NTU standard. Most of the waters of the State are protected by turbidity objectives based on background conditions**.**

Table 1 - Regional Water Board Basin Plans, Water Quality Objectives for Turbidity

REGIONAL WATER BOARD	WQ Objective	Background/Natural Turbidity	Maximum Increase
1	Based on background	All levels	20%

[7] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.
[8] Simon, A., W.D. Dickerson, and A. Heins. 2004. Suspended-sediment transport rates at the 1.5-year recurrence interval for ecoregions of the United States: transport conditions at the bankfull and effective discharge. Geomorphology 58: pp. 243-262.

2	Based on background	> 50 NTU	10%
3	Based on background	0-50 JTU 50-100 JTU > 100 JTU	20% 10 NTU 10%
4	Based on background	0-50 NTU > 50 NTU	20% 10%
5	Based on background	0-5 NTU 5-50 NTU 50-100 NTU >100 NTU	1 NTU 20% 10 NTU 10%
6	Based on background	All levels	10%
7	Based on background	N/A	N/A
8	Based on background	0-50 NTU 50-100 NTU >100 NTU	20% 10 NTU 10%
9	Inland Surface Waters, 20 NTU All others, based on background	0-50 NTU 50-100 NTU >100 NTU	20% 10 NTU 10%

Table 2 shows the suspended sediment concentrations at the 1.5 year flow recurrence interval for the 12 ecoregions in California from Simon et. al (2004).

Table 2 - Results of Ecoregion Analysis

Ecoregion	Percent of California Land Area	Median Suspended Sediment Concentration (mg/L)
1	9.1	874
4	0.2	120
5	8.8	35.6
6	20.7	1530
7	7.7	122
8	3.0	47.4
9	9.4	284
13	5.2	143
14	21.7	5150
78	8.1	581
80	2.4	199
81	3.7	503
Area-weighted average		1633

If a 1:3 relationship between turbidity and suspended sediment is assumed, the median turbidity is 544 NTU.

The following table is composed of turbidity readings measured in NTUs from administrative civil liberty (ACL) actions for construction sites from 2003 - 2009. This data was derived from the complete listing of construction-related ACLs for the six year period. All ACLs were reviewed and those that included turbidimeter readings at the point of storm water discharge were selected for this dataset.

Table 3 – ACL Sampling Data taken by Regional Water Board Staff

WDID#	Region	Discharger	Turbidity (NTU)
5S34C331884	5S	Bradshaw Interceptor Section 6B	1800
5S05C325110	5S	Bridalwood Subdivision	1670
5S48C336297	5S	Cheyenne at Browns Valley	1629
5R32C314271	5R	Grizzly Ranch Construction	1400
6A090406008	6T	El Dorado County Department of Transportation, Angora Creek	97.4
5S03C346861	5S	TML Development, LLC	1600
6A31C325917	6T	Northstar Village	See Subdata Set

Subdata Set - Turbidity for point of storm water runoff discharge at Northstar Village

Date	Turbidity (NTU)	Location
10/5/2006	900	Middle Martis Creek
11/2/2006	190	Middle Martis Creek
01/04/2007	36	West Fork, West Martis Creek
02/08/2007	180	Middle Martis Creek
02/09/2007	130	Middle Martis Creek
02/09/2007	290	Middle Martis Creek
02/09/2007	100	West Fork, West Martis Creek
02/10/2007	28	Middle Martis Creek
02/10/2007	23	Middle Martis Creek
02/10/2007	32	Middle Martis Creek
02/10/2007	12	Middle Martis Creek
02/10/2007	60	West Fork, West Martis Creek
02/10/2007	34	West Fork, West Martis Creek

A 95% confidence interval for mean turbidity in an ACL order was constructed. The data set used was a small sample size, so the 500 NTU (the value derived as the NEL for this General Permit) needed to be verified as a possible population mean. In this case, the population refers to a hypothetical population of turbidity measurements of which our sample of 20 represents. A t-distribution was assumed due to the small sample size:

Mean: 512.23 NTU
Standard Deviation: 686.85
Margin of Error: 321.45
Confidence Interval: 190.78 NTU (Low)
833.68 NTU (High)

Based on a constructed 95% confidence interval, an ACL order turbidity measurement will be between 190.78 – 833.68 NTU. 500 NTU falls within this range. Using the same data set, a small-sample hypothesis test was also performed to test if the ACL turbidity data set contains enough information to cast doubt on choosing a 500 NTU as a mean. 500 NTU was again chosen due to its proposed use as an acceptable NEL value. The test was carried out using a 95% confidence interval. Results indicated that the ACL turbidity data set *does not* contain significant sample evidence to reject the claim of 500 NTU as an acceptable mean for the ACL turbidity population.

There are not many published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites. The most often cited study is a report titled, "Improving the Cost Effectiveness of Highway Construction Site Erosion and Pollution Control" (Horner, Guedry, and Kortenhof 1990, http://www.wsdot.wa.gov/Research/Reports/200/200.1.htm). In a comment letter summarizing this report sent to the State Water Board, the primary author, Dr. Horner, states:

"The most effective erosion control product was wood fiber mulch applied at two different rates along with a bonding agent and grass seed in sufficient time before the tests to achieve germination. Plots treated in this way reduced influent turbidity by more than 97 percent and discharged effluent exhibiting mean and maximum turbidity values of 21 and 73 NTU, respectively. Some other mulch and blanket materials performed nearly as well. These tests demonstrated the control ability of widely available BMPs over a very broad range of erosion potential."

Other technologies studied in this report produced effluent quality at or near 100 NTU. It is the BPJ of the State Water Board staff that erosion control, while preferred, is not always an option on construction sites and that technology performance in a controlled study showing effluent quality directly leaving a BMP is always easier and cheaper to control than effluent being discharged from the project (edge of property, etc.). As a result, it is the BPJ of the State Water Board staff that it is not cost effective or feasible, at this time, for all risk level and type 3 sites in California to achieve effluent discharges with turbidity values that are less than 100 NTU.

To summarize, the analysis showed that: (1) results of the Simon et. al dataset reveals turbidity values in background receiving water in California's ecoregions range from 16 NTU to 1716 NTU (with a mean of 544 NTU); (2) based on a constructed 95% confidence interval, construction sites will be subject to administrative civil liability (ACL) when their turbidity measurement falls between 190.78 – 833.68 NTU; and (3) sites with highly controlled discharges employing and maintaining good erosion control practices can discharge effluent from the BMP with turbidity values less than 100 NTU. Therefore, the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality, and cost-effectiveness ranges from 100 NTU to over 1700 NTU. To keep this parameter and the costs of compliance as low as possible, State Water Board staff has determined, using its BPJ, that it is most cost effective to set the numeric effluent limitation for turbidity at 500 NTU.

a. Compliance Storm Event

In response to public comments on the last draft and the recommendations of the expert panel, this General Permit contains "compliance storm event" exceptions from the technology-based NELs. The rationale is that technology-based requirements are developed assuming a certain design storm (defined as the storm producing a rainfall amount for a specified BMPs capacity). Compliance thresholds are needed for storm events above and beyond the design storms assumed to determine the technology-based NELs. For Risk Level 3 project sites applicable to NELs, this General Permit establishes a compliance storm event as the equivalent rainfall in a 5-year, 24-hour storm. This compliance storm was chosen due to its relative infrequent occurrence and the fact that the runoff volume associated with it is not as large as a 10-year, 24-hour storm event. The discharger shall determine this value using Western

Regional Climate Center Precipitation Frequency Maps[9] for 5-year 24-hour storm events in Northern and Southern California (note that these are expressed in tenths of inches – divide by 10 to get inches).

b. TMDLs and Waste Load Allocations

Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL for sediment has been adopted by the Regional Water Board or USEPA, must comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of sediment. If it does, the TMDL should include a specific waste load allocation for this activity/source. The discharger, in this case, may be required by a separate Regional Water Board order to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. If a specific waste load allocation has been established that would apply to a specific discharge, the Regional Water Board may adopt an order requiring specific implementation actions necessary to meet that allocation. In the instance where an approved TMDL has specified a general waste load allocation to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, dischargers must consult with the state TMDL authority[10] to confirm that adherence to a SWPPP that meets the requirements of the General Permit will be consistent with the approved TMDL.

2. Determining Compliance with Effluent Standards

a. Technology-Based Numeric Action Levels (NALs)

This General Permit contains technology-based NALs for pH and turbidity, and requirements for effluent monitoring at all Risk level 2 & 3, and LUP Type 2 & 3 sites. Numeric action levels are essentially numeric benchmark values for certain parameters that, if exceeded in effluent sampling, trigger the discharger to take actions. Exceedance of an NAL does not itself constitute a violation of the General Permit. If the discharger fails to take the corrective action required by the General Permit, though, that may consititute a violation.

The primary purpose of NALs is to assist dischargers in evaluating the effectiveness of their on-site measures. Construction sites need to employ many different systems that must work together to achieve compliance with the permit's requirements. The NALs chosen should indicate whether the systems are working as intended.

Another purpose of NALs is to provide information regarding construction activities and water quality impacts. This data will provide the State and Regional Water Boards and the rest of the storm water community with more information about levels and types of pollutants present in runoff and how effective the dischargers BMPs are at reducing pollutants in effluent. The State Water Board also hopes to learn more about the linkage between effluent and receiving water quality. In addition, these requirements will provide information on the mechanics needed to establish compliance monitoring programs at construction sites in future permit deliberations.

i. *pH*

[9] http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif & http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif .
[10] http://www.waterboards.ca.gov/tmdl/tmdl.html.

The chosen limits were established by calculating one standard deviation above and below the mean pH of runoff from highway construction sites[11] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.5 to 8.5 pH Units.

The Caltrans study included 33 highway construction sites throughout California over a period of four years, which included 120 storm events. All of these sites had BMPs in place that would be generally implemented at all types of construction sites in California.

ii. ***Turbidity***

BPJ was used to develop an NAL that can be used as a learning tool to help dischargers improve their site controls, and to provide meaningful information on the effectiveness of storm water controls. A statewide turbidity NAL has been set at 250 NTU.

G. Receiving Water Limitations

Construction-related activities that cause or contribute to an exceedance of water quality standards must be addressed. The dynamic nature of construction activity gives the discharger the ability to quickly identify and monitor the source of the exceedances. This is because when storm water mobilizes sediment, it provides visual cues as to where corrective actions should take place and how effective they are once implemented.

This General Permit requires that storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards. The monitoring requirements in this General Permit for sampling and analysis procedures will help determine whether BMPs installed and maintained are preventing pollutants in discharges from the construction site that may cause or contribute to an exceedance of water quality standards.

Water quality standards consist of designated beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. When adopted by the State Water Board or a Regional Water Board, the ambient criteria are termed "water quality objectives." If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to an exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff.)

In California, water quality standards are published in the Basin Plans adopted by each Regional Water Board, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan.

Dischargers can determine the applicable water quality standards by contacting Regional Water Board staff or by consulting one of the following sources. The actual Basin Plans that contain the water quality standards can be viewed at the website of the appropriate Regional Water Board. (http://www.waterboards.ca.gov/regions.html), the State Water Board site for statewide plans (http://www.waterboards.ca.gov/plnspols/index.html), or the USEPA regulations for the NTR and CTR (40 C.F.R. §§ 131.36-38). Basin Plans and statewide plans are also available by mail from the appropriate Regional Water Board or the State Water Board. The USEPA regulations are available at http://www.epa.gov/. Additional information concerning water quality standards can be accessed through http://www.waterboards.ca.gov/stormwtr/gen_const.html.

[11] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.

H. Training Qualifications and Requirements

The Blue Ribbon Panel (BRP) made the following observation about the lack of industry-specific training requirements:

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

Order 99-08-DWQ required that all dischargers train their employees on how to comply with the permit, but it did not specificy a curriculum or certification program. This has resulted in inconsistent implementation by all affected parties - the dischargers, the local governments where the construction activity occurs, and the regulators required to enforce 99-08-DWQ. This General Permit requires Qualified SWPPP Developers and practitioners to obtain appropriate training, and makes this curriculum mandatory two years after adoption, to allow time for course completion. The State and Regional Water Board are working with many stakeholders to develop the curriculum and mechanisms needed to develop and deliver the courses.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, the Qualified SWPPP Developer and Qualified SWPPP Practitioners responsible for creating, revising, overseeing, and implementing the SWPPP must attend a State Water Board-sponsored or approved Qualified SWPPP Developer and Qualified SWPPP Practitioner training course.

I. Sampling, Monitoring, Reporting and Record Keeping

1. Traditional Construction Monitoring Requirements

This General Permit requires visual monitoring at all sites, and effluent water quality at all Risk Level 2 & 3 sites. It requires receiving water monitoring at some Risk Level 3 sites. All sites are required to submit annual reports, which contain various types of information, depending on the site characteristics and events. A summary of the monitoring and reporting requirements is found in Table 4.

Table 4 - Required Monitoring Elements for Risk Levels

	Visual	Non-visible Pollutant	Effluent	Receiving Water
Risk Level 1	three types required for all Risk Levels: non-storm water, pre-rain and post-rain	As needed for all Risk Levels (see below)	where applicable	not required
Risk Level 2			pH, turbidity	not required
Risk Level 3			(if NEL exceeded) pH, turbidity and SSC	(if NEL exceeded) pH, turbidity and SSC. Bioassessment for sites 30 acres or larger.

a. Visual

All dischargers are required to conduct quarterly, non-storm water visual inspections. For these inspections, the discharger must visually observe each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources. For storm-related inspections, dischargers must visually observe storm water discharges at all discharge locations within two business days after a qualifying event. For this requirement, a qualifying rain event is one producing precipitation of ½ inch or more of discharge. Dischargers must conduct a post-storm event inspection to

(1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify any additional BMPs necessary and revise the SWPPP accordingly. Dischargers must maintain on-site records of all visual observations, personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

b. Non-Visible Pollutant Monitoring

This General Permit requires that all dischargers develop a sampling and analysis strategy for monitoring pollutants that are not visually detectable in storm water. Monitoring for non-visible pollutants must be required at any construction site when the exposure of construction materials occurs and where a discharge can cause or contribute to an exceedance of a water quality objective.

Of significant concern for construction discharges are the pollutants found in materials used in large quantities at construction sites throughout California and exposed throughout the rainy season, such as cement, flyash, and other recycled materials or by-products of combustion. The water quality standards that apply to these materials will depend on their composition. Some of the more common storm water pollutants from construction activity are not CTR pollutants. Examples of non-visible pollutants include glyphosate (herbicides), diazinon and chlorpyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants). The use of diazinon and chlorpyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if these materials come into contact with storm water. High pH values from cement and gypsum, high pH and SSC from wash waters, and chemical/fecal contamination from portable toilets, also are not CTR pollutants. Although some of these constituents do have numeric water quality objectives in individual Basin Plans, many do not and are subject only to narrative water quality standards (i.e. not causing toxicity). Dischargers are encouraged to discuss these issues with Regional Water Board staff and other storm water quality professionals.

The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore receiving waters sampling is not required. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site.

Preventing or eliminating the exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions and at a time when they are unlikely to be washed away. Other construction materials can be exposed when storage, waste disposal or the application of the material is done in a manner not protective of water quality. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed. In cases where construction materials may be exposed to storm water, but the storm water is contained and is not allowed to run off the site, sampling will only be required when inspections show that the containment failed or is breached, resulting in potential exposure or discharge to receiving waters.

The discharger must develop a list of potential pollutants based on a review of potential sources, which will include construction materials soil amendments, soil treatments, and historic contamination at the site. The discharger must review existing environmental and real estate documentation to determine the potential for pollutants that could be present on the construction site as a result of past land use activities.

Good sources of information on previously existing pollution and past land uses include:

i. Environmental Assessments;

ii. Initial Studies;

iii. Phase 1 Assessments prepared for property transfers; and

iv. Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act.

In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

The potential pollutant list must include all non-visible pollutants that are known or should be known to occur on the construction site including, but not limited to, materials that:

i. are being used in construction activities;

ii. are stored on the construction site;

iii. were spilled during construction operations and not cleaned up;

iv. were stored (or used) in a manner that created the potential for a release of the materials during past land use activities;

v. were spilled during previous land use activities and not cleaned up; or

vi. were applied to the soil as part of past land use activities.

C. **Effluent Monitoring**

Federal regulations[12] require effluent monitoring for discharges subject to NALs and NELs. Subsequently, all Risk Level 2 and 3 dischargers must perform sampling and analysis of effluent discharges to characterize discharges associated with construction activity from the entire area disturbed by the project. Dischargers must collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

Table 5 - Storm Water Effluent Monitoring Requirements by Risk Level

	Frequency	Effluent Monitoring (Section E, below)
Risk Level 1	when applicable	non-visible pollutant parameters (if applicable)
Risk Level 2	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters (if applicable)
Risk Level 3	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	If NEL exceeded: pH, turbidity and suspended sediment concentration (SSC)., Plus non-visible pollutant parameters if applicable

Risk Level 1 dischargers must analyze samples for:

[12] 40 C.F.R. § 122.44.

i. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment C contained in the General Permit.

Risk Level 2 dischargers must analyze samples for:

i. pH and turbidity;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment D contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

Risk Level 3 dischargers must analyze samples for:

i. pH, turbidity and SSC;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment E contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

2. **Linear Monitoring and Sampling Requirements**

Attachment A, establishes minimum monitoring and reporting requirements for all LUPs. It establishes different monitoring requirements depending on project complexity and risk to water quality. The monitoring requirements for Type 1 LUPs are less than Type 2 & 3 projects because Type 1 projects have a lower potential to impact water quality.

A discharger shall prepare a monitoring program prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project.

a. **Type 1 LUP Monitoring Requirements**

A discharger must conduct daily visual inspections of Type 1 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be conducted in conjunction with other daily activities. Inspections will be conducted to ensure the BMPs are adequate, maintained, and in place at the end of the construction day. The discharger will revise the SWPPP, as appropriate, based on the results of the daily inspections. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures have been installed, and successful final vegetative cover or other stabilization criteria have been met).

A discharger shall implement the monitoring program for inspecting Type 1 LUPs. This program requires temporary and permanent stabilization BMPs after active construction is completed. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where re-vegetation is chosen until minimum vegetative coverage has been established. Photographs shall be taken during site inspections and submitted to the State Water Board.

b. Type 2 & 3 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 2 & 3 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be in conjunction with other daily activities.

All dischargers of Type 2 & 3 LUPs are required to conduct inspections by qualified personnel of the construction site during normal working hours prior to all anticipated storm events and after actual storm events. During extended storm events, the discharger shall conduct inspections during normal working hours for each 24-hour period. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures installed, and successful vegetative cover or other stabilization criteria have been met).

The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) to determine whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

All dischargers shall develop and implement a monitoring program for inspecting Type 2 & 3 LUPs that require temporary and permanent stabilization BMPs after active construction is completed. Inspections will be conducted to ensure the BMPs are adequate and maintained. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where revegetation is chosen until minimum vegetative coverage has been established.

A log of inspections conducted before, during, and after the storm events must be maintained in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection. Photographs must be taken during site inspections and submitted to the State Water Board.

c. Sampling Requirements for all LUP Project Types

LUPs are also subject to sampling and analysis requirements for visible pollutants (i.e., sedimentation/siltation, turbidity) and for non-visible pollutants.

Sampling for visible pollutants is required for Type 2 & 3 LUPs.

Non-visible pollutant monitoring is required for pollutants associated with construction sites and activities that (1) are not visually detectable in storm water discharges, and (2) are known or should be known to occur on the construction site, and (3) could cause or contribute to an exceedance of water quality objectives in the receiving waters. Sample collection for non-visible pollutants must only be required (1) during a storm event when pollutants associated with construction activities may be discharged with storm water runoff due to a spill, or in the event there was a breach, malfunction, failure, and/or leak of any BMP, and (2) when the discharger has failed to adequately clean the area of material and pollutants. Failure to implement appropriate BMPs will trigger the same sampling requirements as those required for a breach, malfunction and/or leak, or when the discharger has failed to implement appropriate BMPs prior to the next storm event.

Additional monitoring parameters may be required by the Regional Water Boards.

It is not anticipated that many LUPs will be required to collect samples for pollutants not visually detected in runoff due to the nature and character of the construction site and activities as previously described in this fact sheet. Most LUPs are constructed in urban areas with public access (e.g., existing roadways, road shoulders, parking areas, etc.). This raises a concern regarding the potential contribution of pollutants from vehicle use and/or from normal activities of the public (e.g., vehicle washing, landscape fertilization, pest spraying, etc.) in runoff from the project site. Since the dischargers are not the land

owners of the project area and are not able to control the presence of these pollutants in the storm water that runs through their projects, it is not the intent of this General Permit to require dischargers to sample for these pollutants. This General Permit does not require the discharger to sample for these types of pollutants except where the discharger has brought materials onsite that contain these pollutants and when a condition (e.g., breach, failure, etc.) described above occurs.

3. Receiving Water Monitoring

In order to ensure that receiving water limitations are met, discharges subject to numeric effluent limitations (i.e., Risk Level 3, LUP Type 3, and ATS with direct discharges into receiving waters) must also monitor the downstream receiving water(s) for turbidity, SSC, and pH (if applicable) when an NEL is exceeded.

a. Bioassessment Monitoring

This General Permit requires a bioassessment of receiving waters for dischargers of Risk Level 3 or LUP Type 3 construction projects equal to or larger than 30 acres with direct discharges into receiving waters. Benthic macroinvertebrate samples will be taken upstream and downstream of the site's discharge point in the receiving water. Bioassessments measure the quality of the stream by analyzing the aquatic life present. Higher levels of appropriate aquatic species tend to indicate a healthy stream; whereas low levels of organisms can indicate stream degradation. Active construction sites have the potential to discharge large amounts of sediment and pollutants into receiving waters. Requiring a bioassessment for large project sites, with the most potential to impact water quality, provides a snapshot of the health of the receiving water prior to initiation of construction activities. This snapshot can be used in comparison to the health of the receiving water after construction has commenced.

Each ecoregion (biologically and geographically related area) in the State has a specific yearly peak time where stream biota is in a stable and abundant state. This time of year is called an Index Period. The bioassessment requirements in this General Permit, requires benthic macroinvertebrate sampling within a sites index period. The State Water Board has developed a map designating index periods for the ecoregions in the State (see State Water Board Website).

This General Permit requires the bioassessment methods to be in accordance with the Surface Water Ambient Monitoring Program (SWAMP) in order to provide data consistency within the state as well as generate useable biological stream data.

Table 6 - Receiving Water Monitoring Requirements

	Receiving Water Monitoring Parameters
Risk Level 1 /LUP Type 1	not required
Risk Level 2 / LUP Type 2	not required
Risk Level 3 / LUP Type 3	If NEL exceeded: pH (if applicable), turbidity, and SSC. Bioassessment for sites 30 acres or larger.

4. Reporting Requirements

a. NEL Violation Report

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards, via SMARTS, no later than 5 days after the conclusion of the storm event. The purpose of the electronic filing of the NEL Violation Report is to 1) inform stakeholder agencies and organizations and the general public, and 2) notify the State and Regional Water Boards of

the exceedance so that they can determine whether any follow-up (e.g., inspection, enforcement, etc.) is necessary to bring the site into compliance.

In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, Risk level 3/LUP Type 3 dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification. Specifically, the NEL Exceedance Report is required to contain:

- the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit are to be reported as "less than the method detection limit or <MDL");
- the date, place, and time of sampling;
- any visual observation (inspections);
- any measurements, including precipitation; and
- a description of the current BMPs associated with the effluent sample that exceeded the NEL and any proposed corrective actions taken.

b. NAL Exceedance Report

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards, via the electronic data system, no later than 5 days after the conclusion of the storm event. In the event that any effluent sample exceeds an applicable NAL, all Risk Level 2 and LUP Type 2 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards no later than 10 days after the conclusion of the storm event. The Regional Water Boards have the authority to require the submittal of an NAL Exceedance Report.

Specifically, the NAL Exceedance Report is required to contain:

- the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit are to be reported as "less than the method detection limit or <MDL");
- the date, place, and time of sampling;
- any visual observation (inspections);
- any measurements, including precipitation; and
- a description of the current BMPs associated with the effluent sample that exceeded the NAL and any proposed corrective actions taken.

c. Annual Report

All dischargers must prepare and electronically submit an annual report no later than September 1 of each year using the Storm water Multi-Application Reporting and Tracking System (SMARTS). The Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain of custody forms, a summary of all corrective actions taken during the compliance year, and identification of any compliance activities or corrective actions that were not implemented.

5. Record Keeping

According to 40 C.F.R. Parts 122.21(p) and 122.41(j), the discharger is required to retain paper or electronic copies of all records required by this General Permit for a period of at least three years from the date generated or the date submitted to the State Water Board or Regional Water Boards. A discharger must retain records for a period beyond three years as directed by Regional Water Board.

J. Risk Determination

1. Traditional Projects

a. Overall Risk Determination

There are two major requirements related to site planning and risk determination in this General Permit. The project's overall risk is broken up into two elements – (1) project sediment risk (the relative amount of sediment that can be discharged, given the project and location details) and (2) receiving water risk (the risk sediment discharges pose to the receiving waters).

Project Sediment Risk:
Project Sediment Risk is determined by multiplying the R, K, and LS factors from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss expressed in tons/acre. The RUSLE equation is as follows:

A = (R)(K)(LS)(C)(P)

Where: A = the rate of sheet and rill erosion
R = rainfall-runoff erosivity factor
K = soil erodibility factor
LS = length-slope factor
C = cover factor (erosion controls)
P = management operations and support practices (sediment controls)

The C and P factors are given values of 1.0 to simulate bare ground conditions.

There is a map option and a manual calculation option for determining soil loss. For the map option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The product of K and LS are shown on Figure 1. To determine soil loss in tons per acre, the discharger multiplies the R factor times the value for K times LS from the map.

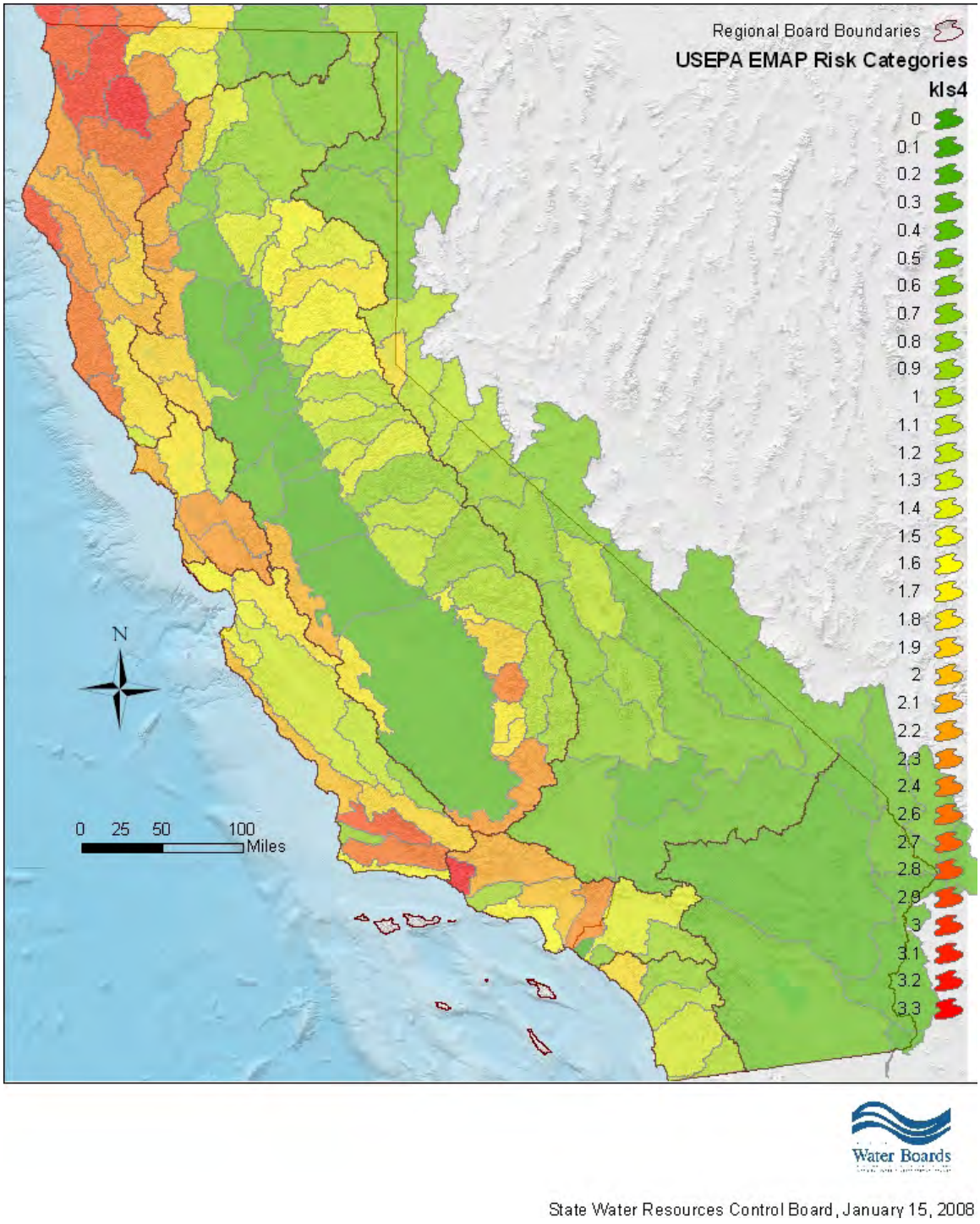


Figure 1 -Statewide Map of K * LS

For the manual calculation option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The K and LS factors are determined using Appendix 1.

Soil loss of less than 15 tons/acre is considered **low** sediment risk.
Soil loss between 15 and 75 tons/acre is **medium** sediment risk.
Soil loss over 75 tons/acre is considered **high** sediment risk.

The soil loss values and risk categories were obtained from mean and standard deviation RKLS values from the USEPA EMAP program. High risk is the mean RKLS value plus two standard deviations. Low risk is the mean RKLS value minus two standard deviations.

Receiving Water Risk:
Receiving water risk is based on whether a project drains to a sediment-sensitive waterbody. A sediment-sensitive waterbody is either

on the most recent 303d list for waterbodies impaired for sediment;
has a USEPA-approved Total Maximum Daily Load implementation plan for sediment; **or**
has the beneficial uses of COLD, SPAWN, and MIGRATORY.

A project that meets at least one of the three criteria has a high receiving water risk. A list of sediment-sensitive waterbodies will be posted on the State Water Board's website. It is anticipated that an interactive map of sediment sensitive water bodies in California will be available in the future.

The Risk Levels have been altered by eliminating the possibility of a Risk Level 4, and expanding the constraints for Risk Levels 1, 2, and 3. Therefore, projects with high receiving water risk and high sediment risk will be considered a Risk Level 3 risk to water quality.

In response to public comments, the Risk Level requirements have also been changed such that Risk Level 1 projects will be subject to minimum BMP and visual monitoring requirements, Risk Level 2 projects will be subject to NALs and some additional monitoring requirements, and Risk Level 3 projects will be subject to NELs, and more rigorous monitoring requirements such as receiving water monitoring and in some cases bioassessment.

Table 7 - Combined Risk Level Matrix

Combined Risk Level Matrix				
Receiving Water Risk		Sediment Risk		
		Low	Medium	High
	Low	Level 1	Level 2	
	High	Level 2		Level 3

b. Effluent Standards

All dischargers are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require storm water discharges associated with construction activity to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize BAT and BCT to reduce pollutants and any more stringent controls necessary to meet water quality standards.

Risk Level 2, and 3 dischargers are subject to numeric effluent standards comparable to the project's risk to water quality. Risk Level 2 dischargers that pose a medium risk to water quality are subject to technology-based NALs for pH and turbidity. Risk Level 3 dischargers that pose a high risk to water quality are subject to technology-based NALs and technology-based NELs for pH and turbidity.

c. Good Housekeeping

Proper handling and managing of construction materials can help minimize threats to water quality. The discharger must consider good housekeeping measures for: construction materials, waste management, vehicle storage & maintenance, landscape materials, and potential pollutant sources. Examples include; conducting an inventory of products used, implementing proper storage & containment, and properly cleaning all leaks from equipment and vehicles.

d. Non-Storm Water Management

Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-storm water discharges during construction, and from dewatering activities associated with construction. Examples include; properly washing vehicles in contained areas, cleaning streets, and minimizing irrigation runoff.

e. Erosion Control

The best way to minimize the risk of creating erosion and sedimentation problems during construction is to disturb as little of the land surface as possible by fitting the development to the terrain. When development is tailored to the natural contours of the land, little grading is necessary and, consequently, erosion potential is lower.[14] Other effective erosion control measures include: preserving existing vegetation where feasible, limiting disturbance, and stabilizing and re-vegetating disturbed areas as soon as possible after grading or construction activities. Particular attention must be paid to large, mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded.[13]

Risk Level 3 dischargers pose a higher risk to water quality and are therefore additionally required to ensure that post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Sediment Control

Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

Because Risk Level 2 and 3 dischargers pose a higher risk to water quality, additional requirements for the application of sediment controls are imposed on these projects. This General Permit also authorizes the Regional Water Boards to require Risk Level 3 dischargers to implement additional site-specific

[13] U.S. Environmental Protection Agency. 2007. Developing Your Storm Water Pollution Prevention Plan: A Guide for Construction Sites.

sediment control requirements if the implementation of other erosion or sediment controls are not adequately protecting the receiving waters.

g. Run-on and Runoff Control

Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions.

Risk Level 1 dischargers with lower risks to impact water quality are not subject to the run-on and runoff control requirements unless an evaluation deems them necessary or visual inspections show that such controls are required.

h. Inspection, Maintenance and Repair

All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended.

i. Rain Event Action Plan (REAP)

A Rain Event Action Plan (REAP) is a written document, specific for each rain event. A REAP should be designed that when implemented it protects all exposed portions of the site within 48 hours of any likely precipitation event forecast of 50% or greater probability.

This General Permit requires Risk Level 2 and 3 dischargers to develop and implement a REAP designed to protect all exposed portions of their sites within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is likely a forecast of 50% or greater probability of precipitation in the project area. (The National Oceanic and Atmospheric Administration (NOAA) defines a chance of precipitation as a probability of precipitation of 30% to 50% chance of producing precipitation in the project area.[14] NOAA defines the probability of precipitation (PoP) as the likelihood of occurrence (expressed as a percent) of a measurable amount (0.01 inch or more) of liquid precipitation (or the water equivalent of frozen precipitation) during a specified period of time at any given point in the forecast area.) Forecasts are normally issued for 12-hour time periods. Descriptive terms for uncertainty and aerial coverage are used as follows:

Table 8 -National Oceanic and Atmospheric Administration (NOAA) Definition of Probability of Precipitation (PoP)

PoP	Expressions of Uncertainty	Aerial Coverage
0%	none used	none used
10%	none used	isolated
20%	slight chance	isolated
30-50%	chance	scattered

[14] http://www.crh.noaa.gov/lot/severe/wxterms.php.

60-70%	likely	numerous
80-100%	none used	none used

The discharger must obtain the precipitation forecast information from the National Weather Service Forecast Office (http://www.srh.noaa.gov/).

2. **Linear Projects**

a. **Linear Risk Determination**

LUPs vary in complexity and water quality concerns based on the type of project. This General Permit has varying application requirements based on the project's risk to water quality. Factors that lead to the characterization of the project include location, sediment risk, and receiving water risk.

Based on the location and complexity of a project area or project section area, LUPs are separated into project types. As described below, LUPs have been categorized into three project types.

i. ***Type 1 LUPs***

Type 1 LUPs are those construction projects where:

(1) 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day, or

(2) greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

Areas disturbed during construction will be returned to pre-construction conditions or equivalent protection established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization Best Management Practices (BMPs) will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

Type 1 LUPs typically do not have a high potential to impact storm water quality because (1) these construction activities are not typically conducted during a rain event, (2) these projects are normally constructed over a short period of time[15], minimizing the duration that pollutants could potentially be exposed to rainfall; and (3) disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.

[15] Short period of time refers to a project duration of weeks to months, but typically less than one year in duration.

Type 1 LUPs are determined during the risk assessment found in Attachment A.1 to be 1) low sediment risk and low receiving water risk; 2) low sediment risk and medium receiving water risk; and 3) medium sediment risk and low receiving water risk.

This General Permit requires the discharger to ensure a SWPPP is developed for these construction activities that is specific to project type, location and characteristics.

ii. ***Type 2 LUPs:***

Type 2 projects are determined to have a combination of High, Medium, and Low project sediment risk along with High, Medium, and Low receiving water risk. Like Type 1 projects, Type 2 projects are typically constructed over a short period of time. However, these projects have a higher potential to impact water quality because they:

(1) typically occur outside the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location and characteristics.

iii. ***Type 3 LUPs:***

Type 3 projects are determined to have a combination of High and Medium project sediment risk along with High and Medium receiving water risk. Similar to Type 2 projects, Type 3 projects have a higher potential to impact water quality because they:

(1) typically occur outside of the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location, and characteristics.

b. **Linear Effluent Standards**

All LUPs are subject to the narrative effluent limitations specified in the General Permit.

Type 2 and 3 LUPs are subject to NELs comparable to the project type's risk to water quality. Type 2 projects that pose an intermediate risk to water quality are subject to technology-based NALs for pH and turbidity. Type 3 projects posing a high risk to water quality are subject to technology-based NALs and NELs for pH and turbidity.

c. Linear Good Housekeeping

Improper use and handling of construction materials could potentially cause a threat to water quality. In order to ensure proper site management of these construction materials, all LUP dischargers must comply with a minimum set of Good Housekeeping measures specified in Attachment A of this General Permit.

d. Linear Non-Storm Water Management

In order to ensure control of all non-storm water discharges during construction, all LUP dischargers must comply with the Non-Storm Water Management measures specified in Attachment A of this General Permit.

e. Linear Erosion Control

This General Permit requires all LUP dischargers to implement effective wind erosion control measures, and soil cover for inactive areas. Type 3 LUPs posing a higher risk to water quality are additionally required to ensure the post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Linear Sediment Control

In order to ensure control and containment of all sediment discharges, all LUP dischargers must comply with the general Sediment Control measures specified in Attachment A or this General Permit. Additional requirements for sediment controls are imposed on Type 2 & 3 LUPs due to their higher risk to water quality.

g. Linear Run-on and Runoff Control

Discharges originating outside of a project's perimeter and flowing onto the property can adversely affect the quantity and quality of discharges originating from a project site. In order to ensure proper management of run-on and runoff, all LUPs must comply with the run-on and runoff control measures specified in Attachment A of this General Permit. Due to the lower risk of impacting water quality, Type 1 LUPs are not required to implement run-on and runoff controls unless deemed necessary by the discharger.

h. Linear Inspection, Maintenance and Repair

Proper inspection, maintenance, and repair activities are important to ensure the effectiveness of on-site measures to control water quality. In order to ensure that inspection, maintenance, and repair activities are adequately performed, the all LUP dischargers a re required to comply with the Inspection, Maintenance, and Repair requirements specified in Attachment A of this General Permit.

K. ATS[16] Requirements

There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a water quality standard, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.[17]

Although treatment systems have been in use in some form since the mid-1990s, the ATS industry in California is relatively young, and detailed regulatory standards have not yet been developed. Many developers are using these systems to treat storm water discharges from their construction sites. The new ATS requirements set forth in this General Permit are based on those in place for small wastewater treatment systems, ATS regulations from the Central Valley Regional Water Quality Control Board (September 2005 memorandum "2005/2006 Rainy Season – Monitoring Requirements for Storm Water Treatment Systems that Utilize Chemical Additives to Enhance Sedimentation"), the Construction Storm Water Program at the State of Washington's Department of Ecology, as well as recent advances in technology and knowledge of coagulant performance and aquatic safety.

The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

These systems can be very effective in reducing the sediment in storm water runoff, but the systems that use additives/polymers to enhance sedimentation also pose a potential risk to water quality (e.g., operational failure, equipment failure, additive/polymer release, etc.). The State Water Board is concerned about the potential acute and chronic impacts that the polymers and other chemical additives may have on fish and aquatic organisms if released in sufficient quantities or concentrations. In addition to anecdotal evidence of polymer releases causing aquatic toxicity in California, the literature supports this concern.[18] For example, cationic polymers have been shown to bind with the negatively charged gills of fish, resulting in mechanical suffocation.[19] Due to the potential toxicity impacts, which may be caused by the release of additives/polymers into receiving waters, this General Permit establishes residual polymer monitoring and toxicity testing requirements have been established in this General Permit for discharges from construction sites that utilize an ATS in order to protect receiving water quality and beneficial uses.

The primary treatment process in an ATS is coagulation/flocculation. ATS's operate on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin, or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent, assuring a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin, or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The

---

[16] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment.

[17] Pitt, R., S. Clark, and D. Lake. 2006. Construction Site Erosion and Sediment Controls: Planning, Design, and Performance. DEStech Publications. Lancaster, PA. 370pp.

[18] RomØen, K., B. Thu, and Ø. Evensen. 2002. Immersion delivery of plasmid DNA II. A study of the potentials of a chitosan based delivery system in rainbow trout (*Oncorhynchus mykiss*) fry. *Journal of Controlled Release* **85**: 215-225.

[19] Bullock, G., V. Blazer, S. Tsukuda, and S. Summerfelt. 2000. Toxicity of acidified chitosan for cultured rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **185**:273-280.

particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank, and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond, where it is treated and filtered as it flows through the system, and is then directly discharged. "Flow-Through Treatment" is also referred to as "Continuous Treatment."

1. **Effluent Standards**

This General Permit establishes NELs for discharges from construction sites that utilize an ATS. These systems lend themselves to NELs for turbidity and pH because of their known reliable treatment. Advanced systems have been in use in some form since the mid-1990s. An ATS is considered reliable, can consistently produce a discharge of less than 10 NTU, and has been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels.[20]

This General Permit contains "compliance storm event" exceptions from the technology-based NELs for ATS discharges. The rationale is that technology-based requirements are developed assuming a certain design storm. In the case of ATS the industry-standard design storm is 10-year, 24-hour (as stated in Attachment F of this General Permit), so the compliance storm event has been established as the 10-year 24-hour event as well to provide consistency.

2. **Training**

Operator training is critical to the safe and efficient operation and maintenance of the ATS, and to ensure that all State Water Board monitoring and sampling requirements are met. The General Permit requires that all ATS operators have training specific to using ATS's liquid coagulants.

L. Post-Construction Requirements

Under past practices, new and redevelopment construction activities have resulted in modified natural watershed and stream processes. This is caused by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, increasing drainage density through pipes and channels, and altering the condition of stream channels through straightening, deepening, and armoring. These changes result in a drainage system where sediment transport capacity is increased and sediment supply is decreased. A receiving channel's response is dependent on dominant channel materials and its stage of adjustment.

Construction activity can lead to impairment of beneficial uses in two main ways. First, during the actual construction process, storm water discharges can negatively affect the chemical, biological, and physical properties of downstream receiving waters. Due to the disturbance of the landscape, the most likely pollutant is sediment, however pH and other non-visible pollutants are also of great concern. Second, after most construction activities are completed at a construction site, the finished project may result in significant modification of the site's response to precipitation. New development and redevelopment

[20] Currier, B., G. Minton, R. Pitt, L. Roesner, K. Schiff, M. Stenstrom, E. Strassler, and E. Strecker. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.

projects have almost always resulted in permanent post-construction water quality impacts because more precipitation ends up as runoff and less precipitation is intercepted, evapotranspired, and infiltrated.

General Permit 99-08-DWQ required the SWPPP to include a description of all post-construction BMPs on a site and a maintenance schedule. An effective storm water management strategy must address the full suite of storm events (water quality, channel protection, overbank flood protection, extreme flood protection) (Figure 2).

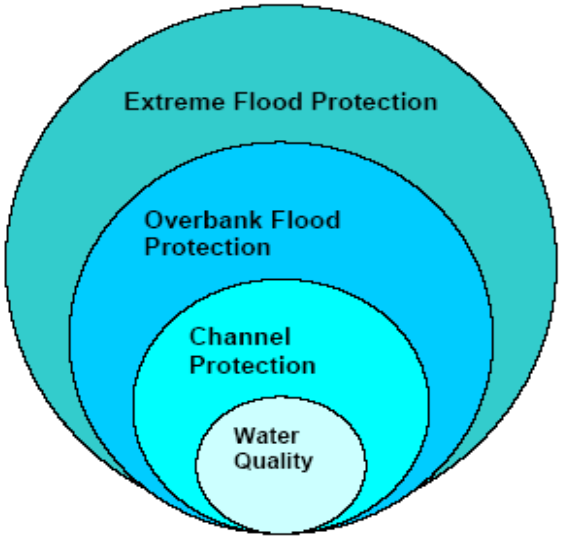


Figure 2 - Suite of Storm Events

The post-construction storm water performance standards in this General Permit specifically address water quality and channel protection events. Overbank flood protection and extreme flood protection events are traditionally dealt with in local drainage and flood protection ordinances. However, measures in this General Permit to address water quality and channel protection also reduce overbank and extreme flooding impacts. This General Permit aims to match post-construction runoff to pre-construction runoff for the 85th percentile storm event, which not only reduces the risk of impact to the receiving water's channel morphology but also provides some protection of water quality.

This General Permit clarifies that its runoff reduction requirements only apply to projects that lie outside of jurisdictions covered by a Standard Urban Storm water Management Plan (SUSMP) (or other more protective) post-construction requirements in either Phase I or Phase II permits.

Figures 3 and 4, below, show the General Permit enrollees (to Order 99-08-DWQ, as of March 10, 2008) overlaid upon a map with SUSMP (or more protective) areas in blue and purple. Areas without blue or purple indicate where the General Permit's runoff reduction requirements would actually apply.

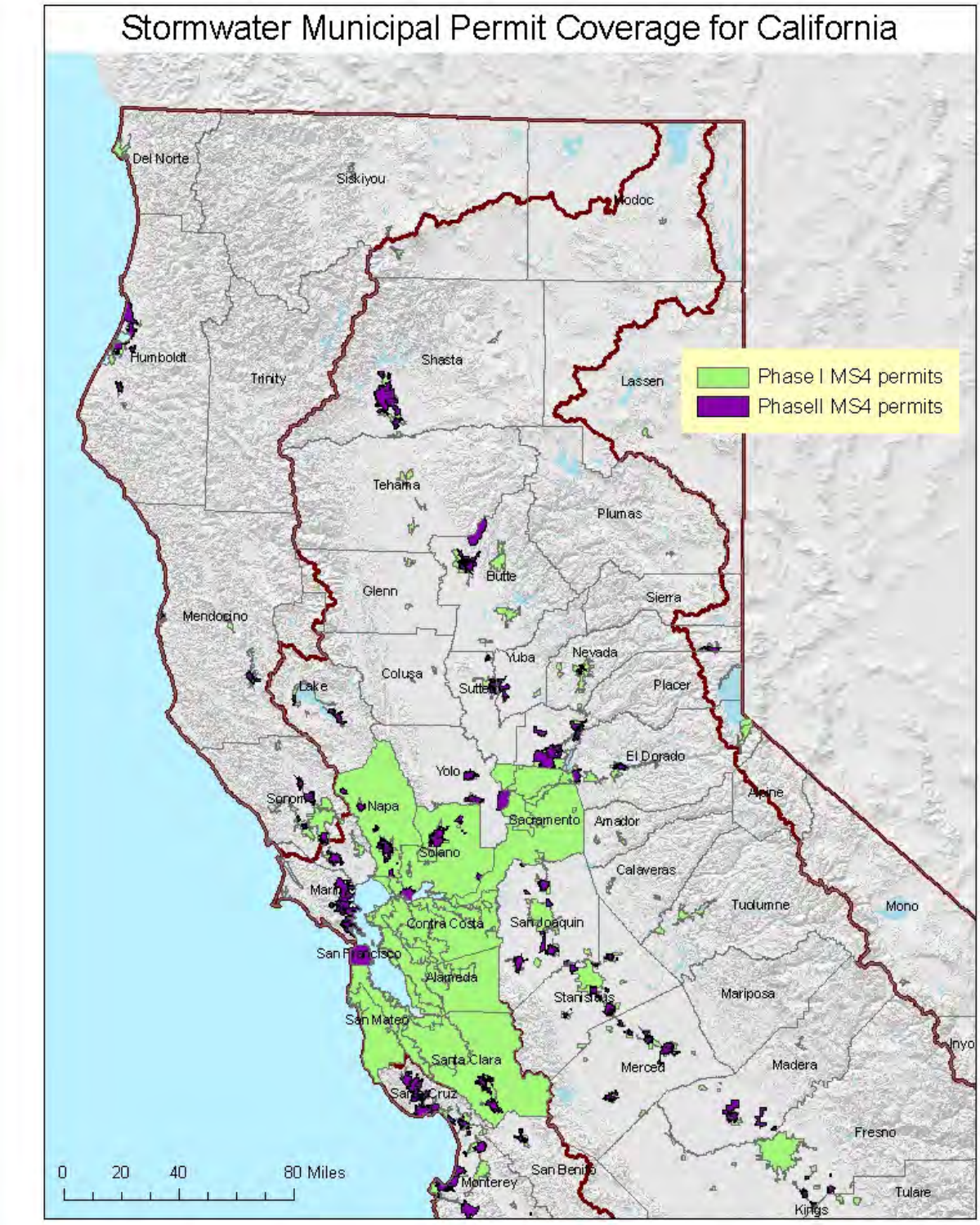


Figure 3 - Northern CA (2009) Counties / Cities With SUSMP-Plus Coverage



Figure 4 - Southern CA (2009) Counties / Cities With SUSMP-Plus Coverage

Water Quality:
This General Permit requires dischargers to replicate the pre-project runoff water balance (defined as the amount of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event, or the smallest storm event that generates runoff, whichever is larger. Contemporary storm water management generally routes these flows directly to the drainage system, increasing pollutant loads and potentially causing adverse effects on receiving waters. These smaller water quality events happen much more frequently than larger events and generate much higher pollutant loads on an annual basis. There are other adverse hydrological impacts that result from not designing according to the site's pre-construction water balance. In Maryland, Klein[21] noted that baseflow decreases as the extent of urbanization increases. Ferguson and Suckling[22] noted a similar relation in watersheds in Georgia. On Long Island, Spinello and Simmons[23] noted substantial decreases in base flow in intensely urbanized watersheds.

The permit emphasizes runoff reduction through on-site storm water reuse, interception, evapo-transpiration and infiltration through non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). Employing these measures close to the source of runoff generation is the easiest and most cost-effective way to comply with the pre-construction water balance standard. Using low-tech runoff reduction techniques close to the source is consistent with a number of recommendations in the literature.[24] In many cases, BMPs implemented close to the source of runoff generation cost less than end-of the pipe measures.[25] Dischargers are given the option of using Appendix 2 to calculate the required runoff volume or a watershed process-based, continuous simulation model such as the EPA's Storm Water Management Model (SWMMM) or Hydrologic Simulation Program Fortran (HSPF). Such methods used by the discharger will be reviewed by the Regional Water Board upon NOT application.

Channel Protection:
In order to address channel protection, a basic understanding of fluvial geomorphic concepts is necessary. A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge (1.5 to 2 year recurrence interval). The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.[26] Lane (1955 as cited in Rosgen 1996[27]) showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope in Figure 5. A change in any one of these variables sets up a series of mutual adjustments in the companion variables with a resulting direct change in the physical characteristics of the stream channel.

---

[21] Klein 1979 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[22] Ferguson and Suckling 1990 as cited Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[23] Center for Watershed Protection (CWP). 2000. The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers, and estuaries. Ellicott City, MD. 741 pp.
[24] Bay Area Storm Water Management Agencies Association (BASMAA). 1997. Start at the Source: Residential Site Planning and Design Guidance Manual for Storm Water Quality Protection. Palo Alto, CA;
McCuen, R.H. 2003 Smart Growth: hydrologic perspective. Journal of Professional Issues in Engineering Education and Practice. Vol (129), pp.151-154;
Moglen, G.E. and S. Kim. 2007. Impervious imperviousness-are threshold based policies a good idea? Journal of the American Planning Association, Vol 73 No. 2. pp 161-171.
[25] Delaware Department of natural Resources (DDNR). 2004. Green technology: The Delaware urban Runoff Management Approcah. Dover, DE. 117 pp.
[26] Dunne, T and L.B. Leopold. 1978. Water in Environmental Planning. San Francisco W.H. Freeman and Company
[27] Rosgen. D.L. 1996. Applied River Morphology. Pagosa Springs. Wildland Hydrology

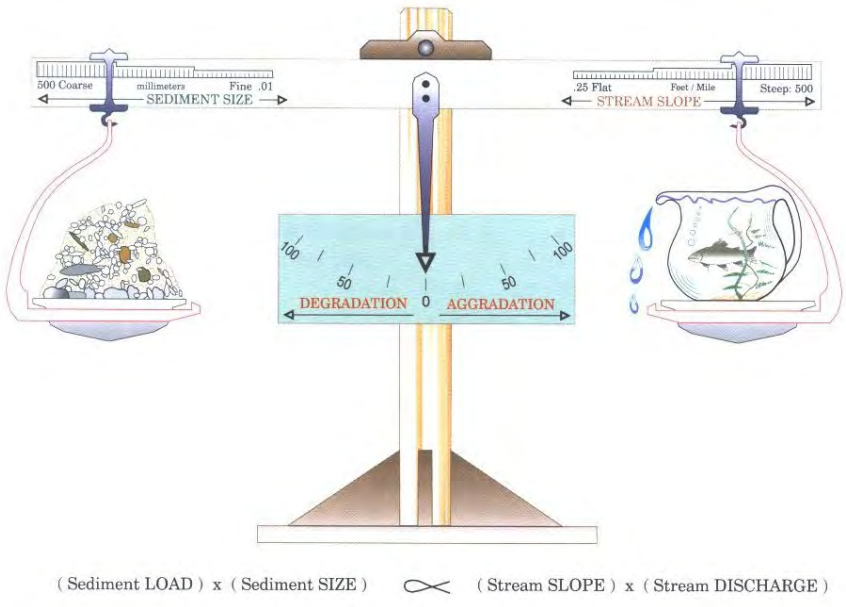


Figure 5 - Schematic of the Lane Relationship

After Lane (1955) as cited in Rosgen (1996)

Stream slope multiplied by stream discharge (the right side of the scale) is essentially an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (sediment load and sediment size represented on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels.[28] Most of this sediment is delivered to stream channels during large, episodic rain events.[29] This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et. al (1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 6).

[28] Goldman S.J., K. Jackson, and T.A. Bursztynsky. 1986. Erosion and Sediment Control Handbook. McGraw Hill. San Francisco.
[29] Wolman 1967 as cited in Paul, M.P. and J.L. Meyer. 2001. Streams in the Urban Landscape. *Annu. Rev.Ecol. Syst.* 32: 333-365.

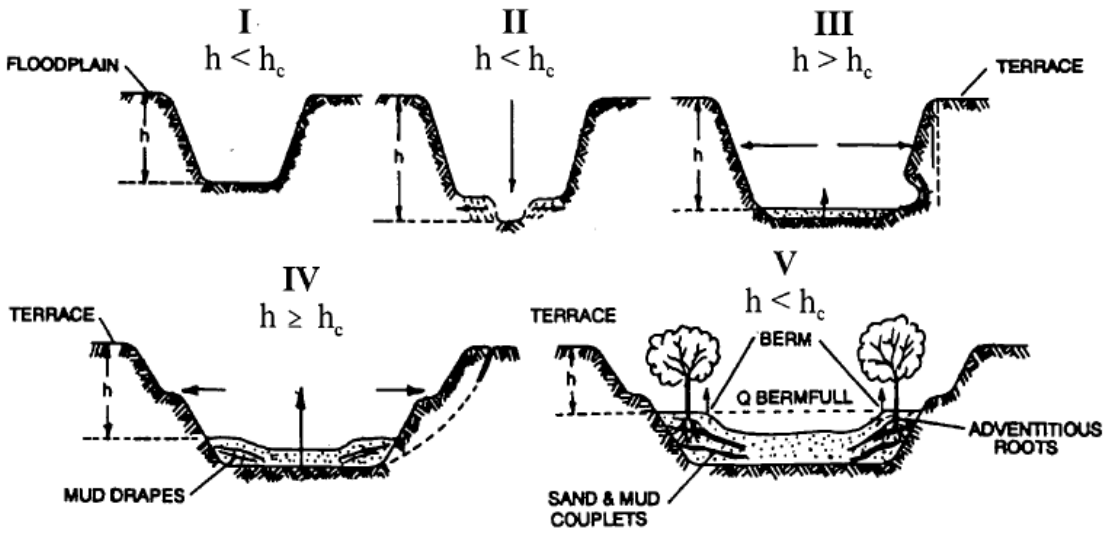


Figure 6 - Channel Changes Associated with Urbanization

After Incised Channel Evolution Sequence in Schumm et. al 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges.[30] Increased drainage density (miles of stream length per square mile of watershed) also negatively impacts receiving stream channels.[31] Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often "sediment starved" and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization.[32] This means that even if pre- and post-development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant (provided they are non-cohesive).

[30] Booth, D. B. and C. R. Jackson. 1997. Urbanization of Aquatic Systems: Degradation Thresholds, Storm Water Detection, and the Limits of Mitigation. Journal of the American Water Resources Association Vol. 33, No.5, pp. 1077-1089.

[31] May, C.W. 1998. Cumulative effects of urbanization on small streams in the Puget Sound Lowland ecoregion. Conference proceedings from Puget Sound Research '98 held March 12, 13 1998 in Seattle, WA;
Santa Clara Valley Urban Runoff Pollution Prevention Program. 2002. Hydromodification Management Plan Literature Review. 80 pp.

[32] Finkenbine, J.K., D.S. Atwater, and D.S. Mavinic. 2000. Stream health after urbanization. *J. Am. Water Resour. Assoc.* 36:1149-60;
Pizzuto, J.E. W.S. Hession, and M. McBride. 2000. Comparing gravel-bed rivers in paired urban and rural catchments of southeastern Pennsylvania. *Geology* 28:79-82.

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power [33]and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel. After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening.[34] At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution. Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein and Zaleski 2005). [35]

Traditional structural water quality BMPs (e.g. detention basins and other devices used to store volumes of runoff) unless they are highly engineered to provide adequate flow duration control, do not adequately protect receiving waters from accelerated channel bed and bank erosion, do not address post-development increases in runoff volume, and do not mitigate the decline in benthic macroinvertebrate communities in the receiving waters[36] suggest that structural BMPs are not as effective in protecting aquatic communities as a continuous riparian buffer of native vegetation. This is supported by the findings of Zucker and White[37], where instream biological metrics were correlated with the extent of forested buffers.

This General Permit requires dischargers to maintain pre-development drainage densities and times of concentration in order to protect channels and encourages dischargers to implement setbacks to reduce channel slope and velocity changes that can lead to aquatic habitat degradation.

There are a number of other approaches for modeling fluvial systems, including statistical and physical models and simpler stream power models.[38] The use of these models in California is described in Stein and Zaleski (2005).[39] Rather than prescribe a specific one-size-fits-all modeling method in this permit, the State Water Board intends to develop a stream power and channel evolution model-based framework to assess channels and develop a hierarchy of suitable analysis methods and management strategies. In time, this framework may become a State Water Board water quality control policy.

---

[33] Hammer 1973 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp;
Booth, D.B. 1990. Stream Channel Incision Following Drainage Basin Urbanization. *Water Resour. Bull.* 26:407-417.

[34] Trimble, S.W. 1997. Contribution of Stream Channel Erosion to Sediment Yield from an Urbanizing Watershed. *Science*: Vol. 278 (21), pp. 1442-1444.

[35] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

[36] Horner, R.R. 2006. Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices (LID) for the San Diego Region. Available at: http://www.projectcleanwater.org/pdf/permit/case-study_lid.pdf.

[37] Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.

[38] Finlayson, D.P. and D.R. Montgomery. 2003. Modeling large-scale fluvial erosion in geographic information systems. Geomorphology (53), pp. 147-164).

[39] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

Permit Linkage to Overbank and Extreme Flood Protection
Site design BMPs (e.g. rooftop and impervious disconnection, vegetated swales, setbacks and buffers) filter and settle out pollutants and provide for more infiltration than is possible for traditional centralized structural BMPs placed at the lowest point in a site. They provide source control for runoff and lead to a reduction in pollutant loads. When implemented, they also help reduce the magnitude and volume of larger, less frequent storm events (e.g., 10-yr, 24-hour storm and larger), thereby reducing the need for expensive flood control infrastructure. Nonstructural BMPs can also be a landscape amenity, instead of a large isolated structure requiring substantial area for ancillary access, buffering, screening and maintenance facilities.[25] The multiple benefits of using non-structural benefits will be critically important as the state's population increases and imposes strains upon our existing water resources.

Maintaining predevelopment drainage densities and times of concentration will help reduce post-development peak flows and volumes in areas not covered under a municipal permit. The most effective way to preserve drainage areas and maximize time of concentration is to implement landform grading, incorporate site design BMPs and implement distributed structural BMPs (e.g., bioretention cells, rain gardens, rain cisterns).

M. Storm Water Pollution Prevention Plans

USEPA's Construction General Permit requires that qualified personnel conduct inspections. USEPA defines qualified personnel as "a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity."[40] USEPA also suggests that qualified personnel prepare SWPPPs and points to numerous states that require certified professionals to be on construction sites at all times. States that currently have certification programs are Washington, Georgia, Florida, Delaware, Maryland, and New Jersey. The Permit 99-08-DWQ did not require that qualified personnel prepare SWPPPs or conduct inspections. However, to ensure that water quality is being protected, this General Permit requires that all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer. A Qualified SWPPP Developer must possess one of the eight certifications and or registrations specified in this General Permit and effective two years after the adoption date of this General Permit, must have attended a State Water Board-sponsored or approved Qualified SWPPP Developer training course. Table 9 provides an overview of the criteria used in determining qualified certification titles for a QSD and QSP.

40 US Environmental Protection Agency. Stormwater Pollution Prevention Plans for Construction Activities. <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm> and <http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf>.

Table 9 - Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria

Certification/ Title	Registered By	QSD/QSP	Certification Criteria
Professional Civil Engineer	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Geologist or Engineering Geologist	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Landscape Architect	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Hydrologist	American Institute of Hydrology	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Certified Professional in Erosion and Sediment Control™ (CPESC)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Inspector of Sediment and Erosion Control™ (CISEC)	Certified Inspector of Sediment and Erosion Control, Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Erosion, Sediment and Storm Water Inspector™ (CESSWI)	Enviro Cert International Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Professional in Storm Water Quality™ (CPSWQ)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education

The previous versions of the General Permit required development and implementation of a SWPPP as the primary compliance mechanism. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The SWPPP must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

This General Permit shifts some of the measures that were covered by this general requirement to specific permit requirements, each individually enforceable as a permit term. This General Permit emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs that can effectively address source control of pollutants during changing construction activities. These specific requirements also improve both the clarity and the enforceability of the General Permit so that the dischargers understand, and the public can determine whether the discharges are in compliance with, permit requirements.

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the General Permit. For LUPs the discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio or telephone. Once construction activities are complete, until stabilization is achieved, the SWPPP shall be available from the SWPPP contact listed in the PRDs

A SWPPP must be appropriate for the type and complexity of a project and will be developed and implemented to address project specific conditions. Some projects may have similarities or complexities, yet each project is unique in its progressive state that requires specific description and selection of BMPs needed to address all possible generated pollutants

N. Regional Water Board Authorities

Because this General Permit will be issued to thousands of construction sites across the State, the Regional Water Boards retain discretionary authority over certain issues that may arise from the discharges in their respective regions. This General Permit does not grant the Regional Water Boards any authority they do not otherwise have; rather, it merely emphasizes that the Regional Water Boards can take specific actions related to this General Permit. For example, the Regional Water Boards will be enforcing this General Permit and may need to adjust some requirements for a discharger based on the discharger's compliance history.

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Arnold Schwarzenegger
Governor

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5455
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5463 • http://www.waterboards.ca.gov

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER NO. 2009-0009-DWQ
NPDES NO**. CAS000002**

This Order was adopted by the State Water Resources Control Board on:	**September 2, 2009**
This Order shall become effective on:	**July 1, 2010**
This Order shall expire on:	**September 2, 2014**

IT IS HEREBY ORDERED, that this Order supersedes Order No. 99-08-DWQ [as amended by Order No. 2010-0014-DWQ] except for enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on September 2, 2009.

AYE: Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: Chairman Charles R. Hoppin

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5455
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5463 • http://www.waterboards.ca.gov

Arnold Schwarzenegger
Governor

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

ORDER NO. 2010-0014-DWQ
NPDES NO. CAS000002

Order No. 2009-0009-DWQ was adopted by the State Water Resources Control Board on:	**September 2, 2009**
Order No. 2009-0009-DWQ became effective on:	**July 1, 2010**
Order No. 2009-0009-DWQ shall expire on:	**September 2, 2014**
This Order, which amends Order No. 2009-0009-DWQ, was adopted by the State Water Resources Control Board on:	**November 16, 2010**
This Order shall become effective on:	**February 14, 2011**

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in blue-underline text and deletions are reflected in red-strikeout text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-0009-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on **November 16, 2010.**

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: None

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

TABLE OF CONTENTS

I.	FINDINGS	1
II.	CONDITIONS FOR PERMIT COVERAGE	14
III.	DISCHARGE PROHIBITIONS	20
IV.	SPECIAL PROVISIONS	22
V.	EFFLUENT STANDARDS	28
VI.	RECEIVING WATER LIMITATIONS	31
VII.	TRAINING QUALIFICATIONS AND CERTIFICATION REQUIREMENTS	32
VIII.	RISK DETERMINATION	33
IX.	RISK LEVEL 1 REQUIREMENTS	34
X.	RISK LEVEL 2 REQUIREMENTS	34
XI.	RISK LEVEL 3 REQUIREMENTS	34
XII.	ACTIVE TREATMENT SYSTEMS (ATS)	34
XIII.	POST-CONSTRUCTION STANDARDS	35
XIV.	SWPPP REQUIREMENTS	37
XV.	REGIONAL WATER BOARD AUTHORITIES	38
XVI.	ANNUAL REPORTING REQUIREMENTS	39

LIST OF ATTACHMENTS

Attachment A – Linear Underground/Overhead Requirements
Attachment A.1 – LUP Type Determination
Attachment A.2 – LUP Permit Registration Documents
Attachment B – Permit Registration Documents
Attachment C – Risk Level 1 Requirements
Attachment D – Risk Level 2 Requirements
Attachment E – Risk Level 3 Requirements
Attachment F – Active Treatment System (ATS) Requirements

LIST OF APPENDICES

Appendix 1 – Risk Determination Worksheet
Appendix 2 – Post-Construction Water Balance Performance Standard
Appendix 2.1 – Post-Construction Water Balance Performance Standard Spreadsheet
Appendix 3 – Bioassessment Monitoring Guidelines
Appendix 4 – Adopted/Implemented Sediment TMDLs
Appendix 5 – Glossary
Appendix 6 – Acronyms
Appendix 7 – State and Regional Water Resources Control Board Contacts

STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2009-0009-DWQ
[AS AMENDED BY ORDER NO. 2010-0014-DWQ]
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The federal Clean Water Act (CWA) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit (Title 33 United States Code (U.S.C.) §§ 1311 and 1342(p); also referred to as Clean Water Act (CWA) §§ 301 and 402(p)). The U.S. Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the CWA's mandate to control pollutants in storm water runoff discharges. (Title 40 Code of Federal Regulations (C.F.R.) Parts 122, 123, and 124). The federal statutes and regulations require discharges to surface waters comprised of storm water associated with construction activity, including demolition, clearing, grading, and excavation, and other land disturbance activities (except operations that result in disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale), to obtain coverage under an NPDES permit. The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in storm water runoff. The NPDES permit must also include additional requirements necessary to implement applicable water quality standards.

2. This General Permit authorizes discharges of storm water associated with construction activity so long as the dischargers comply with all requirements, provisions, limitations and prohibitions in the permit. In addition, this General Permit regulates the discharges of storm water associated with construction activities from all Linear

Underground/Overhead Projects resulting in the disturbance of greater than or equal to one acre (Attachment A).

3. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.

4. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems or other watercourses within their jurisdictions.

5. This action to adopt a general NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), pursuant to Section 13389 of the California Water Code.

6. Pursuant to 40 C.F.R. § 131.12 and State Water Board Resolution No. 68-16,[1] which incorporates the requirements of § 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality standards, and are therefore consistent with those provisions. Compliance with this General Permit will result in improvements in water quality.

7. This General Permit serves as an NPDES permit in compliance with CWA § 402 and will take effect on July 1, 2010 by the State Water Board provided the Regional Administrator of the U.S. EPA has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the General Permit will not become effective until such objection is withdrawn.

8. Following adoption and upon the effective date of this General Permit, the Regional Water Quality Control Boards (Regional Water Boards) shall enforce the provisions herein.

9. Regional Water Boards establish water quality standards in Basin Plans. The State Water Board establishes water quality standards in various statewide plans, including the California Ocean Plan. U.S. EPA establishes water quality standards in the National Toxic Rule (NTR) and the California Toxic Rule (CTR).

[1] Resolution No. 68-16 generally requires that existing water quality be maintained unless degradation is justified based on specific findings.

10. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA § 404 and does not constitute a waiver of water quality certification under CWA § 401.

11. The primary storm water pollutant at construction sites is excess sediment. Excess sediment can cloud the water, which reduces the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in our waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and greases.

12. Construction activities can impact a construction site's runoff sediment supply and transport characteristics. These modifications, which can occur both during and after the construction phase, are a significant cause of degradation of the beneficial uses established for water bodies in California. Dischargers can avoid these effects through better construction site design and activity practices.

13. This General Permit recognizes four distinct phases of construction activities. The phases are Grading and Land Development Phase, Streets and Utilities Phase, Vertical Construction Phase, and Final Landscaping and Site Stabilization Phase. Each phase has activities that can result in different water quality effects from different water quality pollutants. This General Permit also recognizes inactive construction as a category of construction site type.

14. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable requirements.

15. Following public notice in accordance with State and Federal laws and regulations, the State Water Board heard and considered all comments and testimony in a public hearing on 06/03/2009. The State Water Board has prepared written responses to all significant comments.

16. Construction activities obtaining coverage under the General Permit may have multiple discharges subject to requirements that are specific to general, linear, and/or active treatment system discharge types.

17. The State Water Board may reopen the permit if the U.S. EPA adopts a final effluent limitation guideline for construction activities.

B. Activities Covered Under the General Permit

18. Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

19. Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

20. Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to U.S. EPA regulations, such as dairy barns or food processing facilities.

21. Construction activity associated with Linear Underground/Overhead Utility Projects (LUPs) including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

22. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[2]

23. Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction sites that intend to disturb one or more acres of land within the jurisdictional boundaries of

[2] Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the U.S. EPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the site.

C. Activities Not Covered Under the General Permit

24. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

25. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

26. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

27. Construction activity and land disturbance involving discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction sites in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit.

28. Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

29. Construction activity covered by an individual NPDES Permit for storm water discharges.

30. Discharges from small (1 to 5 acre) construction activities with an approved Rainfall Erosivity Waiver authorized by U.S. EPA Phase II regulations certifying to the State Board that small construction activity will occur only when the Rainfall Erosivity Factor is less than 5 (“R” in the Revised Universal Soil Loss Equation).

31. Landfill construction activity that is subject to the Industrial General Permit.

32. Construction activity that discharges to Combined Sewer Systems.

33. Conveyances that discharge storm water runoff combined with municipal sewage.

34. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

35. Discharges occurring in basins that are not tributary or hydrologically connected to waters of the United States (for more information contact your Regional Water Board).

D. Obtaining and Modifying General Permit Coverage

36. This General Permit requires all dischargers to electronically file all Permit Registration Documents (PRDs), Notices of Termination (NOT), changes of information, annual reporting, and other compliance documents required by this General Permit through the State Water Board's Storm water Multi-Application and Report Tracking System (SMARTS) website.

37. Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

38. This General Permit grants an exception from the Risk Determination requirements for existing sites covered under Water Quality Orders No. 99-08-DWQ, and No. 2003-0007-DWQ. For certain sites, adding additional requirements may not be cost effective. Construction sites covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at the Risk Level 1. LUPs covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage as a Type 1 LUP. The Regional Water Boards have the authority to require Risk Determination to be performed on sites currently covered under Water Quality Orders No. 99-08-DWQ and No. 2003-0007-DWQ where they deem it necessary. The State Water Board finds that there are two circumstances when it may be appropriate for the Regional Water Boards to require a discharger that had filed an NOI under State Water Board Order No. 99-08-DWQ to recalculate the site's risk level. These circumstances are: (1) when the discharger has a demonstrated history of noncompliance with State Water Board Order No. 99-08-DWQ or; (2) when the discharger's site poses a significant risk of causing or contributing to an exceedance of a water quality standard without the implementation of the additional Risk Level 2 or 3 requirements.

E. Prohibitions

39. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit. Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may

contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural Best Management Practices (BMPs)[3]. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction.

40. This General Permit prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

41. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the State Water Board and the nine Regional Water Boards.

42. Pursuant to the Ocean Plan, discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

43. This General Permit prohibits the discharge of any debris[4] from construction sites. Plastic and other trash materials can cause negative impacts to receiving water beneficial uses. The State Water Board encourages the use of more environmentally safe, biodegradable materials on construction sites to minimize the potential risk to water quality.

F. Training

44. In order to improve compliance with and to maintain consistent enforcement of this General Permit, all dischargers are required to appoint two positions - the Qualified SWPPP Developer (QSD) and the Qualified SWPPP Practitioner (QSP) - who must obtain appropriate training. Together with the key stakeholders, the State and Regional Water Boards are leading the development of this curriculum through a collaborative organization called The Construction General Permit (CGP) Training Team.

45. The Professional Engineers Act (Bus. & Prof. Code section 6700, et seq.) requires that all engineering work must be performed by a California licensed engineer.

[3] BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practice to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

[4] Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

G. Determining and Reducing Risk

46. The risk of accelerated erosion and sedimentation from wind and water depends on a number of factors, including proximity to receiving water bodies, climate, topography, and soil type.

47. This General Permit requires dischargers to assess the risk level of a site based on both sediment transport and receiving water risk. This General Permit contains requirements for Risk Levels 1, 2 and 3, and LUP Risk Type 1, 2, and 3 (Attachment A). Risk levels are established by determining two factors: first, calculating the site's sediment risk; and second, receiving water risk during periods of soil exposure (i.e. grading and site stabilization). Both factors are used to determine the site-specific Risk Level(s). LUPs can be determined to be Type 1 based on the flowchart in Attachment A.1.

48. Although this General Permit does not mandate specific setback distances, dischargers are encouraged to set back their construction activities from streams and wetlands whenever feasible to reduce the risk of impacting water quality (e.g., natural stream stability and habitat function). Because there is a reduced risk to receiving waters when setbacks are used, this General Permit gives credit to setbacks in the risk determination and post-construction storm water performance standards. The risk calculation and runoff reduction mechanisms in this General Permit are expected to facilitate compliance with any Regional Water Board and local agency setback requirements, and to encourage voluntary setbacks wherever practicable.

49. Rain events can occur at any time of the year in California. Therefore, a Rain Event Action Plan (REAP) is necessary for Risk Level 2 and 3 traditional construction projects (LUPs exempt) to ensure that active construction sites have adequate erosion and sediment controls implemented prior to the onset of a storm event, even if construction is planned only during the dry season.

50. Soil particles smaller than 0.02 millimeters (mm) (i.e., finer than medium silt) do not settle easily using conventional measures for sediment control (i.e., sediment basins). Given their long settling time, dislodging these soils results in a significant risk that fine particles will be released into surface waters and cause unacceptable downstream impacts. If operated correctly, an Active Treatment System (ATS[5]) can prevent or reduce the release of fine particles from construction sites.

[5] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electro coagulation in order to reduce turbidity caused by fine suspended sediment.

Use of an ATS can effectively reduce a site's risk of impacting receiving waters.

51. Dischargers located in a watershed area where a Total Maximum Daily Load (TMDL) has been adopted or approved by the Regional Water Board or U.S. EPA may be required by a separate Regional Water Board action to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. Such dischargers may also be required to obtain an individual Regional Water Board permit specific to the area.

H. Effluent Standards

52. The State Water Board convened a blue ribbon panel of storm water experts that submitted a report entitled, “The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities,” dated June 19, 2006. The panel concluded that numeric limits or action levels are technically feasible to control construction storm water discharges, provided that certain conditions are considered. The panel also concluded that numeric effluent limitations (NELs) are feasible for discharges from construction sites that utilize an ATS. The State Water Board has incorporated the expert panel’s suggestions into this General Permit, which includes both numeric action levels (NALs) and NELs for pH and turbidity, and special numeric limits for ATS discharges.

Numeric Effluent Limitations

53. Discharges of storm water from construction activities may become contaminated from alkaline construction materials resulting in high pH (greater than pH 7). Alkaline construction materials include, but are not limited to, hydrated lime, concrete, mortar, cement kiln dust (CKD), Portland cement treated base (CTB), fly ash, recycled concrete, and masonry work. This General Permit includes an NEL for pH (6.0-9.0) that applies only at sites that exhibit a "high risk of high pH discharge." A "high risk of high pH discharge" can occur during the complete utilities phase, the complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations to the background pH of any discharges.

54. For Risk Level 3 discharges, this General Permit establishes technology-based, numeric effluent limitations (NELs) for turbidity of 500 NTU. Exceedances of the turbidity NEL constitutes a violation of this General Permit.

55. This General Permit establishes a 5 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based NELs for Risk Level 3 dischargers.

Determining Compliance with Numeric Limitations

56. This General Permit sets a pH NAL of 6.5 to 8.5, and a turbidity NAL of 250 NTU. The purpose of the NAL and its associated monitoring requirement is to provide operational information regarding the performance of the measures used at the site to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges. The NALs in this General Permit for pH and turbidity are not directly enforceable and do not constitute NELs.

57. This General Permit requires dischargers with NAL exceedances to immediately implement additional BMPs and revise their Storm Water Pollution Prevention Plans (SWPPPs) accordingly to either prevent pollutants and authorized non-storm water discharges from contaminating storm water, or to substantially reduce the pollutants to levels consistently below the NALs. NAL exceedances are reported in the State Water Boards SMARTS system, and the discharger is required to provide an NAL Exceedance Report when requested by a Regional Water Board.

58. If run-on is caused by a forest fire or any other natural disaster, then NELs do not apply.

59. Exceedances of the NELs are a violation of this Permit. This General Permit requires dischargers with NEL exceedances to implement additional monitoring, BMPs, and revise their SWPPPs accordingly. Dischargers are required to notify the State and Regional Water Boards of the violation through the State Water Boards SMARTs system, and provide an NEL Violation Report sharing additional information concerning the NEL exceedance.

I. Receiving Water Limitations

60. This General Permit requires all enrolled dischargers to determine the receiving waters potentially affected by their discharges and to comply with all applicable water quality standards, including any more stringent standards applicable to a water body.

J. Sampling, Monitoring, Reporting and Record Keeping

61. Visual monitoring of storm water and non-storm water discharges is required for all sites subject to this General Permit.

62. Records of all visual monitoring inspections are required to remain on-site during the construction period and for a minimum of three years.

63. For all Risk Level 3 and Risk Level 2 sites, this General Permit requires effluent monitoring for pH and turbidity. Sampling, analysis and monitoring requirements for effluent monitoring for pH and turbidity are contained in this General Permit.

64. Risk Level 3 sites in violation of the Numeric Effluent Limitations contained in this General Permit and with direct discharges to receiving water are required to conduct receiving water monitoring.

65. For Risk Level 3 sites larger than 30 acres and with direct discharges to receiving waters, this General Permit requires bioassessment sampling before and after site completion to determine if significant degradation to the receiving water's biota has occurred. Bioassessment sampling guidelines are contained in this General Permit.

66. A summary and evaluation of the sampling and analysis results will be submitted in the Annual Reports.

67. This General Permit contains sampling, analysis and monitoring requirements for non-visible pollutants at all sites subject to this General Permit.

68. Compliance with the General Permit relies upon dischargers to electronically self-report any discharge violations and to comply with any Regional Water Board enforcement actions.

69. This General Permit requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed. For LUPs, these documents may be retained in a crew member's vehicle and made available upon request.

K. Active Treatment System (ATS) Requirements

70. Active treatment systems add chemicals to facilitate flocculation, coagulation and filtration of suspended sediment particles. The uncontrolled release of these chemicals to the environment can negatively affect the beneficial uses of receiving waters and/or degrade water quality (e.g., acute and chronic toxicity). Additionally, the batch storage and treatment of storm water through an ATS' can potentially

cause physical impacts on receiving waters if storage volume is inadequate or due to sudden releases of the ATS batches and improperly designed outfalls.

71. If designed, operated and maintained properly an ATS can achieve very high removal rates of suspended sediment (measured as turbidity), albeit at sometimes significantly higher costs than traditional erosion/sediment control practices. As a result, this General Permit establishes NELs consistent with the expected level of typical ATS performance.

72. This General Permit requires discharges of storm water associated with construction activity that undergo active treatment to comply with special operational and effluent limitations to ensure that these discharges do not adversely affect the beneficial uses of the receiving waters or cause degradation of their water quality.

73. For ATS discharges, this General Permit establishes technology-based NELs for turbidity.

74. This General Permit establishes a 10 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based numeric effluent limitations for ATS discharges. Exceedances of the ATS turbidity NEL constitutes a violation of this General Permit.

L. Post-Construction Requirements

75. This General Permit includes performance standards for post-construction that are consistent with State Water Board Resolution No. 2005-0006, "Resolution Adopting the Concept of Sustainability as a Core Value for State Water Board Programs and Directing Its Incorporation," and 2008-0030, “Requiring Sustainable Water Resources Management.“ The requirement for all construction sites to match pre-project hydrology will help ensure that the physical and biological integrity of aquatic ecosystems are sustained. This “runoff reduction” approach is analogous in principle to Low Impact Development (LID) and will serve to protect related watersheds and waterbodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

76. LUP projects are not subject to post-construction requirements due to the nature of their construction to return project sites to pre-construction conditions.

M. Storm Water Pollution Prevention Plan Requirements

77. This General Permit requires the development of a site-specific SWPPP. The SWPPP must include the information needed to demonstrate compliance with all requirements of this General Permit, and must be kept on the construction site and be available for review. The discharger shall ensure that a QSD develops the SWPPP.

78. To ensure proper site oversight, this General Permit requires a Qualified SWPPP Practitioner to oversee implementation of the BMPs required to comply with this General Permit.

N. Regional Water Board Authorities

79. Regional Water Boards are responsible for implementation and enforcement of this General Permit. A general approach to permitting is not always suitable for every construction site and environmental circumstances. Therefore, this General Permit recognizes that Regional Water Boards must have some flexibility and authority to alter, approve, exempt, or rescind permit authority granted under this General Permit in order to protect the beneficial uses of our receiving waters and prevent degradation of water quality.

IT IS HEREBY ORDERED that all dischargers subject to this General Permit shall comply with the following conditions and requirements (including all conditions and requirements as set forth in Attachments A, B, C, D, E and F)[6]:

II. CONDITIONS FOR PERMIT COVERAGE

A. Linear Underground/Overhead Projects (LUPs)

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g. telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. The Legally Responsible Person is responsible for obtaining coverage under the General Permit where the construction of pipelines, utility lines, fiber-optic cables, or other linear underground/overhead projects will occur across several properties unless the LUP construction activities are covered under another construction storm water permit.

3. Only LUPs shall comply with the conditions and requirements in Attachment A, A.1 & A.2 of this Order. The balance of this Order is not applicable to LUPs except as indicated in Attachment A.

[6] These attachments are part of the General Permit itself and are not separate documents that are capable of being updated independently by the State Water Board.

B. Obtaining Permit Coverage Traditional Construction Sites

1. The Legally Responsible Person (LRP) (see Special Provisions, Electronic Signature and Certification Requirements, Section IV.I.1) must obtain coverage under this General Permit.

2. To obtain coverage, the LRP must electronically file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

3. PRDs shall consist of:

   a. Notice of Intent (NOI)
   b. Risk Assessment (Section VIII)
   c. Site Map
   d. Storm Water Pollution Prevention Plan (Section XIV)
   e. Annual Fee
   f. Signed Certification Statement

   Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

   Attachment B contains additional PRD information. Dischargers must electronically file the PRDs, and mail the appropriate annual fee to the State Water Board.

4. This permit is effective on July 1, 2010.

   a. **Dischargers Obtaining Coverage On or After July 1, 2010:** All dischargers requiring coverage on or after July 1, 2010, shall electronically file their PRDs prior to the commencement of construction activities, and mail the appropriate annual fee no later than seven days prior to the commencement of construction activities. Permit coverage shall not commence until the PRDs and the annual fee are received by the State Water Board, and a WDID number is assigned and sent by SMARTS.

   b. **Dischargers Covered Under 99-08-DWQ and 2003-0007-DWQ:** Existing dischargers subject to State Water Board Order No. 99-08-DWQ (existing dischargers) will continue coverage under 99-08-DWQ until July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 99-08-DWQ will be terminated.

Existing dischargers shall electronically file their PRDs no later than July 1, 2010. If an existing discharger's site acreage subject to the annual fee has changed, it shall mail a revised annual fee no less than seven days after receiving the revised annual fee notification, **or else lose permit coverage**. All existing dischargers shall be exempt from the risk determination requirements in Section VIII of this General Permit until two years after permit adoption. All existing dischargers are therefore subject to Risk Level 1 requirements regardless of their site's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the Section VIII risk determination requirements.

5. The discharger is only considered covered by this General Permit upon receipt of a Waste Discharger Identification (WDID) number assigned and sent by the State Water Board Storm water Multi-Application and Report Tracking System (SMARTS). In order to demonstrate compliance with this General Permit, the discharger must obtain a WDID number and must present documentation of a valid WDID upon demand.

6. During the period this permit is subject to review by the U.S. EPA, the prior permit (State Water Board Order No. 99-08-DWQ) remains in effect. Existing dischargers under the prior permit will continue to have coverage under State Water Board Order No. 99-08-DWQ until this General Permit takes effect on July 1, 2010. Dischargers who complete their projects and electronically file an NOT prior to July 1, 2010, are not required to obtain coverage under this General Permit.

7. Small Construction Rainfall Erosivity Waiver

   EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

   Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

   If a small construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the

rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

8. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. Revising Permit Coverage for Change of Acreage or New Ownership

1. The discharger may reduce or increase the total acreage covered under this General Permit when a portion of the site is complete and/or conditions for termination of coverage have been met (See Section II.D Conditions for Termination of Coverage); when ownership of a portion of the site is sold to a different entity; or when new acreage, subject to this General Permit, is added to the site.

2. Within 30 days of a reduction or increase in total disturbed acreage, the discharger shall electronically file revisions to the PRDs that include:

   a. A revised NOI indicating the new project size;

   b. A revised site map showing the acreage of the site completed, acreage currently under construction, acreage sold/transferred or added, and acreage currently stabilized in accordance with the Conditions for Termination of Coverage in Section II.D below.

   c. SWPPP revisions, as appropriate; and

   d. Certification that any new landowners have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address of the new landowner.

   e. If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

3. The discharger shall continue coverage under the General Permit for any parcel that has not achieved "Final Stabilization" as defined in Section II.D.

4. When an LRP with active General Permit coverage transfers its LRP status to another person or entity that qualifies as an LRP, the existing LRP shall inform the new LRP of the General Permit's requirements. In order for the new LRP to continue the construction activity on its parcel of property, the new LRP, or the new LRP's approved signatory, must submit PRDs in accordance with this General Permit's requirements.

D. Conditions for Termination of Coverage

1. Within 90 days of when construction is complete or ownership has been transferred, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the State Water Boards SMARTS system. Filing a NOT certifies that all General Permit requirements have been met. The Regional Water Board will consider a construction site complete only when all portions of the site have been transferred to a new owner, or all of the following conditions have been met:

   a. For purposes of "final stabilization," the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction activity;

   b. There is no potential for construction-related storm water pollutants to be discharged into site runoff;

   c. Final stabilization has been reached;

   d. Construction materials and wastes have been disposed of properly;

   e. Compliance with the Post-Construction Standards in Section XIII of this General Permit has been demonstrated;

   f. Post-construction storm water management measures have been installed and a long-term maintenance plan[7] has been established; and

   g. All construction-related equipment, materials and any temporary BMPs no longer needed are removed from the site.

[7] For the purposes of this requirement a long-term maintenance plan will be designed for a minimum of five years, and will describe the procedures to ensure that the post-construction storm water management measures are adequately maintained.

2. The discharger shall certify that final stabilization conditions are satisfied in their NOT. Failure to certify shall result in continuation of permit coverage and annual billing.

3. The NOT must demonstrate through photos, RUSLE or RUSLE2, or results of testing and analysis that the site meets all of the conditions above (Section II.D.1) and the final stabilization condition (Section II.D.1.a) is attained by one of the following methods:

   a. "70% final cover method," no computational proof required

      OR:

   b. "RUSLE or RUSLE2 method," computational proof required

      OR:

   c. "Custom method", the discharger shall demonstrate in some other manner than a or b, above, that the site complies with the "final stabilization" requirement in Section II.D.1.a.

III. DISCHARGE PROHIBITIONS

A. Dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

B. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit.

C. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

1. The discharge does not cause or contribute to a violation of any water quality standard;

2. The discharge does not violate any other provision of this General Permit;

3. The discharge is not prohibited by the applicable Basin Plan;

4. The discharger has included and implemented specific BMPs required by this General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.

5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

6. The discharge is monitored and meets the applicable NALs and NELs; and

7. The discharger reports the sampling information in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not already authorized by this General Permit or another NPDES permit, to determine whether a separate NPDES permit is necessary.

D. Debris resulting from construction activities are prohibited from being discharged from construction sites.

E. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

IV. SPECIAL PROVISIONS

A. Duty to Comply

1. The discharger shall comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

2. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

B. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

2. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

C. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

D. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

F. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

G. Duty to Maintain Records and Provide Information

1. The discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be available at the construction site until construction is completed.

2. The discharger shall furnish the Regional Water Board, State Water Board, or U.S. EPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

H. Inspection and Entry

The discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

3. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

I. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.

2. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or together with any reports, information or applications to be signed by an Approved Signatory.

3. All Annual Reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

J. Certification

Any person signing documents under Section IV.I above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

K. Anticipated Noncompliance

The discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

L. Bypass

Bypass[8] is prohibited. The Regional Water Board may take enforcement action against the discharger for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;[9]

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventative maintenance;

3. The discharger submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or

4. The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The discharger shall submit notice of an unanticipated bypass as required.

M. Upset

1. A discharger that wishes to establish the affirmative defense of an upset[10] in an action brought for noncompliance shall demonstrate,

[8] The intentional diversion of waste streams from any portion of a treatment facility

[9] Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

[10] An exceptional incident in which there is unintentional and temporary noncompliance the technology based numeric effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the discharger can identify the cause(s) of the upset

b. The treatment facility was being properly operated by the time of the upset

c. The discharger submitted notice of the upset as required; and

d. The discharger complied with any remedial measures required

2. No determination made before an action of noncompliance occurs, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof

N. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

P. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

R. Penalties for Violations of Permit Conditions

1. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[11] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

S. Transfers

This General Permit is not transferable.

T. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

[11] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

V. EFFLUENT STANDARDS

A. Narrative Effluent Limitations

1. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

2. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

B. Numeric Effluent Limitations (NELs)

Table 1- Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	Risk Level 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A
		Risk Level 3			lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2	1	NTU	250 NTU	N/A
		Risk Level 3			250 NTU	500 NTU

1. Numeric Effluent Limitations (NELs):

   a. **Storm Event, Daily Average pH Limits –** For Risk Level 3 dischargers, the pH of storm water and non-storm water discharges

shall be within the ranges specified in Table 1 during any site phase where there is a "high risk of pH discharge."[12]

b. **Storm Event Daily Average Turbidity Limit –** For Risk Level 3 dischargers, the turbidity of storm water and non-storm water discharges shall not exceed 500 NTU.

2. If daily average sampling results are outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file monitoring results in violation within 5 business days of obtaining the results.

3. **Compliance Storm Event**:

   Discharges of storm water from Risk Level 3 sites shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for Risk Level 3 discharges is the 5 year, 24 hour storm (expressed in tenths of an inch of rainfall), as determined by using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

   Compliance storm event verification shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

4. Dischargers shall not be required to comply with NELs if the site receives run-on from a forest fire or any other natural disaster.

C. Numeric Action Levels (NALs)

1. For Risk Level 2 and 3 dischargers, the lower storm event average NAL for pH is 6.5 pH units and the upper storm event average NAL for pH is 8.5 pH units. The discharger shall take actions as described below if the discharge is outside of this range of pH values.

[12] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

2. For Risk Level 2 and 3 dischargers, the NAL storm event daily average for turbidity is 250 NTU. The discharger shall take actions as described below if the discharge is outside of this range of turbidity values.

3. Whenever the results from a storm event daily average indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.

4. The site evaluation shall be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

    a. Are related to the construction activities and whether additional BMPs are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

        AND/OR:

    b. Are related to the run-on associated with the construction site location and whether additional BMPs measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) what corrective action(s) were taken or will be taken with a description of the schedule for completion.

VI. RECEIVING WATER LIMITATIONS

A. The discharger shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

B. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

C. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

D. Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL has been approved by the U.S. EPA, shall comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of the pollution.

VII. TRAINING QUALIFICATIONS AND CERTIFICATION REQUIREMENTS

A. General

The discharger shall ensure that all persons responsible for implementing requirements of this General Permit shall be appropriately trained in accordance with this Section. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Those responsible for preparing and amending SWPPPs shall comply with the requirements in this Section VII.

The discharger shall provide documentation of all training for persons responsible for implementing the requirements of this General Permit in the Annual Reports.

B. SWPPP Certification Requirements

1. **Qualified SWPPP Developer:** The discharger shall ensure that SWPPPs are written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

   a. A California registered professional civil engineer;

   b. A California registered professional geologist or engineering geologist;

   c. A California registered landscape architect;

   d. A professional hydrologist registered through the American Institute of Hydrology;

   e. A Certified Professional in Erosion and Sediment Control (CPESC) ™ registered through Enviro Cert International, Inc.;

   f. A Certified Professional in Storm Water Quality (CPSWQ) ™ registered through Enviro Cert International, Inc.;

   g. A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET); or

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

2. The discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

3. **Qualified SWPPP Practitioner:** The discharger shall ensure that all BMPs required by this General Permit are implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   a. A certified erosion, sediment and storm water inspector registered through Enviro Cert International, Inc.; or

   b. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

4. The LRP shall list in the SWPPP, the name of any Approved Signatory, and provide a copy of the written agreement or other mechanism that provides this authority from the LRP in the SWPPP.

5. The discharger shall include, in the SWPPP, a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

6. The discharger shall ensure that the SWPPP and each amendment will be signed by the Qualified SWPPP Developer. The discharger shall include a listing of the date of initial preparation and the date of each amendment in the SWPPP.

VIII. RISK DETERMINATION

The discharger shall calculate the site's sediment risk and receiving water risk during periods of soil exposure (i.e. grading and site stabilization) and use the calculated risks to determine a Risk Level(s) using the methodology in

Appendix 1. For any site that spans two or more planning watersheds,[13] the discharger shall calculate a separate Risk Level for each planning watershed. The discharger shall notify the State Water Board of the site's Risk Level determination(s) and shall include this determination as a part of submitting the PRDs. If a discharger ends up with more than one Risk Level determination, the Regional Water Board may choose to break the project into separate levels of implementation.

IX. RISK LEVEL 1 REQUIREMENTS

Risk Level 1 Dischargers shall comply with the requirements included in Attachment C of this General Permit.

X. RISK LEVEL 2 REQUIREMENTS

Risk Level 2 Dischargers shall comply with the requirements included in Attachment D of this General Permit.

XI. RISK LEVEL 3 REQUIREMENTS

Risk Level 3 Dischargers shall comply with the requirements included in Attachment E of this General Permit.

XII. ACTIVE TREATMENT SYSTEMS (ATS)

Dischargers choosing to implement an ATS on their site shall comply with all of the requirements in Attachment F of this General Permit.

[13] Planning watershed: defined by the Calwater Watershed documents as a watershed that ranges in size from approximately 3,000 to 10,000 acres http://cain.ice.ucdavis.edu/calwater/calwfaq.html, http://gis.ca.gov/catalog/BrowseRecord.epl?id=22175 .

XIII. POST-CONSTRUCTION STANDARDS

A. All dischargers shall comply with the following runoff reduction requirements unless they are located within an area subject to post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved Storm Water Management Plan.

1. This provision shall take effect three years from the adoption date of this permit, or later at the discretion of the Executive Officer of the Regional Board.

2. The discharger shall demonstrate compliance with the requirements of this section by submitting with their NOI a map and worksheets in accordance with the instructions in Appendix 2. The discharger shall use non-structural controls unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts.

3. The discharger shall, through the use of non-structural and structural measures as described in Appendix 2, replicate the pre-project water balance (for this permit, defined as the volume of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event (or the smallest storm event that generates runoff, whichever is larger). Dischargers shall inform Regional Water Board staff at least 30 days prior to the use of any structural control measure used to comply with this requirement. Volume that cannot be addressed using non-structural practices shall be captured in structural practices and approved by the Regional Water Board. When seeking Regional Board approval for the use of structural practices, dischargers shall document the infeasibility of using non-structural practices on the project site, or document that there will be fewer water quality impacts through the use of structural practices.

4. For sites whose disturbed area exceeds two acres, the discharger shall preserve the pre-construction drainage density (miles of stream length per square mile of drainage area) for all drainage areas within the area serving a first order stream[14] or larger stream and ensure that post-project time of runoff concentration is equal or greater than pre-project time of concentration.

[14] A first order stream is defined as a stream with no tributaries.

B. All dischargers shall implement BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site (Post-construction BMPs).

XIV. SWPPP REQUIREMENTS

A. The discharger shall ensure that the Storm Water Pollution Prevention Plans (SWPPPs) for all traditional project sites are developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;

2. Where not otherwise required to be under a Regional Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;

3. Site BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard;

4. Calculations and design details as well as BMP controls for site run-on are complete and correct, and

5. Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

B. To demonstrate compliance with requirements of this General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

C. The discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

XV. REGIONAL WATER BOARD AUTHORITIES

A. In the case where the Regional Water Board does not agree with the discharger's self-reported risk level (e.g., they determine themselves to be a Level 1 Risk when they are actually a Level 2 Risk site), Regional Water Boards may either direct the discharger to reevaluate the Risk Level(s) for their site or terminate coverage under this General Permit.

B. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

C. Regional Water Boards may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

D. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

E. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

XVI. ANNUAL REPORTING REQUIREMENTS

A. All dischargers shall prepare and electronically submit an Annual Report no later than September 1 of each year.

B. The discharger shall certify each Annual Report in accordance with the Special Provisions.

C. The discharger shall retain an electronic or paper copy of each Annual Report for a minimum of three years after the date the annual report is filed.

D. The discharger shall include storm water monitoring information in the Annual Report consisting of:

1. a summary and evaluation of all sampling and analysis results, including copies of laboratory reports;

2. the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");

3. a summary of all corrective actions taken during the compliance year;

4. identification of any compliance activities or corrective actions that were not implemented;

5. a summary of all violations of the General Permit;

6. the names of individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;

7. the date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and

8. the visual observation and sample collection exception records and reports specified in Attachments C, D, and E.

E. The discharger shall provide training information in the Annual Report consisting of:

1. documentation of all training for individuals responsible for all activities associated with compliance with this General Permit;

2. documentation of all training for individuals responsible for BMP installation, inspection, maintenance, and repair; and

3. documentation of all training for individuals responsible for overseeing, revising, and amending the SWPPP.

ATTACHMENT A
Linear Underground/ Overhead Requirements

A. DEFINITION OF LINEAR UNDERGROUND/OVERHEAD PROJECTS 1
B. LINEAR PROJECT PERMIT REGISTRATION DOCUMENTS (PRDs) 3
C. LINEAR PROJECT TERMINATION OF COVERAGE REQUIREMENTS..4
D. DISCHARGE PROHIBITIONS 6
E. SPECIAL PROVISIONS.....8
F. EFFLUENT STANDARDS.....13
G. RECEIVING WATER LIMITATIONS.....16
H. TRAINING QUALIFICATIONS 16
I. TYPES OF LINEAR PROJECTS 18
J. LUP TYPE-SPECIFIC REQUIREMENTS 20
K. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS 28
L. REGIONAL WATER BOARD AUTHORITIES.....29
M. MONITORING AND REPORTING REQUIREMENTS.....31

All Linear Underground/Overhead project dischargers who submit permit registration documents (PRDs) indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DEFINITION OF LINEAR UNDERGROUND/OVERHEAD PROJECTS

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquiescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. LUP evaluation shall consist of two tasks:

a. Confirm that the project or project section(s) qualifies as an LUP. The State Water Board website contains a project determination guidance flowchart. http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

b. Identify which Type(s) (1, 2 or 3 described in Section I below) are applicable to the project or project sections based on project sediment and receiving water risk. (See Attachment A.1)

3. A Legally Responsible Person (LRP) for a Linear Underground/Overhead project is required to obtain CGP coverage under one or more permit registration document (PRD) electronic submittals to the State Water Board's Storm Water Multi-Application and Report Tracking (SMARTs) system. Attachment A.1 contains a flow chart to be used when determining if a linear project qualifies for coverage and to determine LUP Types. Since a LUP may be constructed within both developed and undeveloped locations and portions of LUPs may be constructed by different contractors, LUPs may be broken into logical permit sections. Sections may be determined based on portions of a project conducted by one contractor. Other situations may also occur, such as the time period in which the sections of a project will be constructed (e.g. project phases), for which separate permit coverage is possible. For projects that are broken into separate sections, a description of how each section relates to the overall project and the definition of the boundaries between sections shall be clearly stated.

4. Where construction activities transverse or enter into different Regional Water Board jurisdictions, LRPs shall obtain permit coverage for each Regional Water Board area involved prior to the commencement of construction activities.

5. Small Construction Rainfall Erosivity Waiver

EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

If a small linear construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

B. LINEAR PROJECT PERMIT REGISTRATION DOCUMENTS (PRDs)

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted. PRDs shall consist of the following:

1. Notice of Intent (NOI)

Prior to construction activities, the LRP of a proposed linear underground/overhead project shall utilize the processes and methods provided in Attachment A.2, Permit Registration Documents (PRDs) – General Instructions for Linear Underground/Overhead Projects to comply with the Construction General Permit.

2. Site Maps

LRPs submitting PRDs shall include at least 3 maps. The first map will be a zoomed[1] 1000-1500 ft vicinity map that shows the starting point of the project. The second will be a zoomed map of 1000-1500 ft showing the ending location of the project. The third will be a larger view vicinity map, 1000 ft to 2000 ft, displaying the entire project location depending on the project size, and indicating the LUP type (1, 2 or 3) areas within the total project footprint.

3. Drawings

LRPs submitting PRDs shall include a construction drawing(s) or other appropriate drawing(s) or map(s) that shows the locations of storm drain

[1] An image with a close-up/enhanced detailed view of site features that show minute details such as streets and neighboring structures.
Or: An image with a close-up/enhanced detailed view of the site's surrounding infrastructure.
Or: An image with a close up detailed view of the project and its surroundings.

inlets and waterbodies[2] that may receive discharges from the construction activities and that shows the locations of BMPs to be installed for all those BMPs that can be illustrated on the revisable drawing(s) or map(s). If storm drain inlets, waterbodies, and/or BMPs cannot be adequately shown on the drawing(s) or map(s) they should be described in detail within the SWPPP.

4. Storm Water Pollution Prevention Plan (SWPPP)

LUP dischargers shall comply with the SWPPP Preparation, Implementation, and Oversight requirements in Section K of this Attachment.

5. Contact information

LUP dischargers shall include contact information for all contractors (or subcontractors) responsible for each area of an LUP project. This should include the names, telephone numbers, and addresses of contact personnel. Specific areas of responsibility of each contact, and emergency contact numbers should also be included.

6. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. LINEAR PROJECT TERMINATION OF COVERAGE REQUIREMENTS

The LRP may terminate coverage of an LUP when construction activities are completed by submitting an electronic notice of termination (NOT) through the State Water Board's SMARTS system. Termination requirements are different depending on the complexity of the LUP. An LUP is considered complete when: (a) there is no potential for construction-related storm water pollution; (b) all elements of the SWPPP have been completed; (c) construction materials and waste have been disposed of properly; (d) the site is in compliance with all local storm water management requirements; and (e) the LRP submits a notice of termination (NOT) and has received approval for termination from the appropriate Regional Water Board office.

1. LUP Stabilization Requirements

The LUP discharger shall ensure that all disturbed areas of the construction site are stabilized prior to termination of coverage under this General Permit. Final stabilization for the purposes of submitting an NOT

[2] Includes basin(s) that the MS4 storm sewer systems may drain to for Hydromodification or Hydrological Conditional of Concerns under the MS4 permits.

is satisfied when all soil disturbing activities are completed and one of the following criteria is met:

a. In disturbed areas that were vegetated prior to construction activities of the LUP, the area disturbed must be re-established to a uniform vegetative cover equivalent to 70 percent coverage of the preconstruction vegetative conditions. Where preconstruction vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: if the preconstruction vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage; or

b. Where no vegetation is present prior to construction, the site is returned to its original line and grade and/or compacted to achieve stabilization; or

c. Equivalent stabilization measures have been employed. These measures include, but are not limited to, the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

2. LUP Termination of Coverage Requirements

The LRP shall file an NOT through the State Water Board's SMARTS system. By submitting an NOT, the LRP is certifying that construction activities for an LUP are complete and that the project is in full compliance with requirements of this General Permit and that it is now compliant with soil stabilization requirements where appropriate. Upon approval by the appropriate Regional Water Board office, permit coverage will be terminated.

3. Revising Coverage for Change of Acreage

When the LRP of a portion of an LUP construction project changes, or when a phase within a multi-phase project is completed, the LRP may reduce the total acreage covered by this General Permit. In reducing the acreage covered by this General Permit, the LRP shall electronically file revisions to the PRDs that include:

a. a revised NOI indicating the new project size;

b. a revised site map showing the acreage of the project completed, acreage currently under construction, acreage sold, transferred or added, and acreage currently stabilized.

c. SWPPP revisions, as appropriate; and

d. certification that any new LRPs have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address (if known) of the new LRP.

If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

D. DISCHARGE PROHIBITIONS

1. LUP dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

2. LUP dischargers are prohibited from discharging non-storm water that is not otherwise authorized by this General Permit. Non-storm water discharges authorized by this General Permit[3] may include, fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, street cleaning, dewatering,[4] uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials on site. These authorized non-storm water discharges:

[3] Dischargers must identify all authorized non-storm water discharges in the LUP's SWPPP and identify BMPs that will be implemented to either eliminate or reduce pollutants in non-storm water discharges. Regional Water Boards may direct the discharger to discontinue discharging such non-storm water discharges if determined that such discharges discharge significant pollutants or threaten water quality.
[4] Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Boards. Dischargers shall check with the appropriate Regional Water Boards for any required permit or basin plan conditions prior to initial dewatering activities to land, storm drains, or waterbodies.

a. Shall not cause or contribute to a violation of any water quality standard;

b. Shall not violate any other provision of this General Permit;

c. Shall not violate any applicable Basin Plan;

d. Shall comply with BMPs as described in the SWPPP;

e. Shall not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

f. Shall be monitored and meets the applicable NALs and NELs; and

g. Shall be reported by the discharger in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not authorized by this General Permit to determine the need for a separate NPDES permit.

Additionally, some LUP dischargers may be required to obtain a separate permit if the applicable Regional Water Board has adopted a General Permit for dewatering discharges. Wherever feasible, alternatives, that do not result in the discharge of non-storm water, shall be implemented in accordance with this Attachment's Section K.2 - SWPPP Implementation Schedule.

3. LUP dischargers shall ensure that trench spoils or any other soils disturbed during construction activities that are contaminated[5] are not discharged with storm water or non-storm water discharges into any storm drain or water body except pursuant to an NPDES permit.

When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the LUP discharger shall have those soils sampled and tested to ensure that proper handling and public safety measures are

[5] Contaminated soil contains pollutants in concentrations that exceed the appropriate thresholds that various regulatory agencies set for those substances. Preliminary testing of potentially contaminated soils will be based on odor, soil discoloration, or prior history of the site's chemical use and storage and other similar factors. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The legally responsible person will notify the appropriate local, State, or federal agency(ies) when contaminated soil is found at a construction site, and will notify the Regional Water Board by submitting an NOT at the completion of the project.

implemented. The LUP discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

4. Discharging any pollutant-laden water that will cause or contribute to an exceedance of the applicable Regional Water Board's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain is prohibited.

5. Debris[6] resulting from construction activities are prohibited from being discharged from construction project sites.

E. SPECIAL PROVISIONS

1. Duty to Comply

a. The LUP discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

b. The LUP discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

a. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

[6] Litter, rubble, discarded refuse, and remains of something destroyed.

b. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an LUP discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The LUP discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The LUP discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of the Storm Water Pollution Prevention Plan (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Maintain Records and Provide Information

a. The LUP discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be kept at the construction site or in a crew

member's vehicle until construction is completed, and shall be made available upon request.

b. The LUP discharger shall furnish the Regional Water Board, State Water Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The LUP discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

8. Inspection and Entry

The LUP discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Electronic Signature and Certification Requirements

a. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.

b. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or

together with any reports, information or applications to be signed by an Approved Signatory.

c. All SWPPP revisions, annual reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, USEPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

10. Certification

Any person signing documents under Section E.9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The LUP discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the LUP discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[7] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

17. Transfers

This General Permit is not transferable. A new LRP of an ongoing construction activity must submit PRDs in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An LRP who is a property owner with active General Permit coverage who sells a fraction or all the land shall inform the new property owner(s) of the requirements of this General Permit.

18. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those

[7] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act

dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

F. EFFLUENT STANDARDS

1. Narrative Effluent Limitations

a. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges regulated by this General Permit do not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

b. LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of structural or non-structural controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric Effluent Limitations (NELs)

Table 1. Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	LUP Type 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A
		LUP Type 3			lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	LUP Type 2	1	NTU	250 NTU	N/A
		LUP Type 3			250 NTU	500 NTU

a. Numeric Effluent Limitations (NELs):

i **Storm Event, Daily Average pH Limits –** For LUP Type 3 dischargers, the daily average pH of storm water and non-storm water discharges shall be within the ranges specified in Table 1 during any project phase where there is a "high risk of pH discharge."[8]

ii **Storm Event Daily Average Turbidity Limit –** For LUP Type 3 dischargers, the daily average turbidity of storm water and non-storm water discharges shall not exceed 500 NTU.

[8] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

b. If a daily average sample result is outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file the results in violation within 5 business days of obtaining the results.

c. Compliance Storm Event:

Discharges of storm water from LUP Type 3 sites shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for LUP Type 3 discharges is the 5-year, 24-hour storm (expressed in tenths of an inch of rainfall), as determined by using these maps:

http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

Compliance storm event verification shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

d. Dischargers shall not be required to comply with NELs if the site receives run-on from a forest fire or any other natural disaster.

3. Numeric Action Levels (NALs)

a. For LUP Type 2 and 3 dischargers, the lower storm event daily average NAL for pH is 6.5 pH units and the upper storm event daily average NAL for pH is 8.5 pH units. The LUP discharger shall take actions as described below if the storm event daily average discharge is outside of this range of pH values.

b. For LUP Type 2 and 3 dischargers, the storm event daily average NAL for turbidity is 250 NTU. The discharger shall take actions as described below if the storm event daily average discharge is outside of this range of turbidity values.

c. Whenever daily average analytical effluent monitoring results indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the LUP discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL

exceedance and shall immediately implement corrective actions if they are needed.

d. The site evaluation will be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

i Are related to the construction activities and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

AND/OR:

ii Are related to the run-on associated with the construction site location and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) decide what corrective action(s) were taken or will be taken, including a description of the schedule for completion.

G. RECEIVING WATER LIMITATIONS

1. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

2. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

3. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

H. TRAINING QUALIFICATIONS

1. General

All persons responsible for implementing requirements of this General Permit shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Persons responsible for preparing, amending and certifying SWPPPs shall comply with the requirements in this Section H.

2. SWPPP Certification Requirements

a. **Qualified SWPPP Developer:** The LUP discharger shall ensure that all SWPPPs be written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

i A California registered professional civil engineer;

ii A California registered professional geologist or engineering geologist;

iii A California registered landscape architect;

iv A professional hydrologist registered through the American Institute of Hydrology;

v A certified professional in erosion and sediment control (CPESC) ™ registered through Enviro Cert International, Inc;

vi A certified professional in storm water quality (CPSWQ)™ registered through Enviro Cert International, Inc.; or

vii A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

b. The LUP discharger shall ensure that the SWPPP is written and amended, as needed, to address the specific circumstances for each construction site covered by this General Permit prior to commencement of construction activity for any stage.

c. The LUP discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

d. **Qualified SWPPP Practitioner:** The LUP discharger shall ensure that all elements of any SWPPP for each project will be implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis, and for ensuring full compliance with the permit and implementation of all elements of the SWPPP. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   i A certified erosion, sediment and storm water inspector registered through Certified Professional in Erosion and Sediment Control, Inc.; or

   ii A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

e. The LUP discharger shall ensure that the SWPPP include a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner, and who is ultimately responsible for implementation of the SWPPP. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

f. The LUP discharger shall ensure that the SWPPP and each amendment be signed by the Qualified SWPPP Developer. The LUP discharger shall include a listing of the date of initial preparation and the dates of each amendment in the SWPPP.

I. TYPES OF LINEAR PROJECTS

This attachment establishes three types (Type 1, 2 & 3) of complexity for areas within an LUP or project section based on threat to water quality. Project area Types are determined through Attachment A.1.

The Type 1 requirements below establish the baseline requirements for all LUPs subject to this General Permit. Additional requirements for Type 2 and Type 3 LUPs are labeled.

1. Type 1 LUPs*:*

LUP dischargers with areas of a LUP designated as Type 1 shall comply with the requirements in this Attachment. Type 1 LUPs are:

a. Those construction areas where 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day; or

b. Where greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

   i Areas disturbed during construction will be returned to preconstruction conditions or equivalent protection is established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

   ii Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization BMPs will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

c. Where the risk determination is as follows:

   i Low sediment risk, low receiving water risk, or

   ii Low sediment risk, medium receiving water risk, or

   iii Medium sediment risk, low receiving water risk

2. Type 2 LUPs:

Type 2 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 2 LUPs have the specified combination of risk:

d. High sediment risk, low receiving water risk, or

e. Medium sediment risk, medium receiving water risk, or

f. Low sediment risk, high receiving water risk

Receiving water risk is either considered “Low” for those areas of the project that are not in close proximity to a sensitive receiving watershed, “Medium” for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, and “High” where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C of this General Permit.

3. Type 3 LUPs:

Type 3 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 3 LUPs have the specified combination of risk:

a. High sediment risk, high receiving water risk, or

b. High sediment risk, medium receiving water risk, or

c. Medium sediment risk, high receiving water risk

Receiving water risk is either considered “Medium” for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, or “High” where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C.

J. LUP TYPE-SPECIFIC REQUIREMENTS

1. Effluent Standards

a. Narrative – LUP dischargers shall comply with the narrative effluent standards below.

i Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities

ii LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

b. Numeric – LUP Type 1 dischargers are not subject to a numeric effluent standard

c. Numeric –LUP Type 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

d. Numeric – LUP Type 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU. In addition, LUP Type 3 dischargers are subject to a pH NEL of 6.0-9.0 and a turbidity NEL of 500 NTU.

2. Good Site Management "Housekeeping"

a. LUP dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, the good housekeeping measures shall consist of the following:

i Identify the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

ii Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

iii Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

iv Minimize exposure of construction materials to precipitation (not applicable to materials designed to be outdoors and exposed to the environment).

v Implement BMPs to control the off-site tracking of loose construction and landscape materials.

b. LUP dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

i Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

ii Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

iii Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

iv Cover waste disposal containers at the end of every business day and during a rain event.

v Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

vi Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

vii Implement procedures that effectively address hazardous and non-hazardous spills.

viii Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

(1) Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

(2) Appropriate spill response personnel are assigned and trained.

ix Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

c. LUP dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

i Prevent oil, grease, or fuel from leaking into the ground, storm drains or surface waters.

ii Implement appropriate BMPs whenever equipment or vehicles are fueled, maintained or stored.

iii Clean leaks immediately and disposing of leaked materials properly.

d. LUP dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

i Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

ii Contain fertilizers and other landscape materials when they are not actively being used.

iii Discontinue the application of any erodible landscape material at least 2 days before a forecasted rain event[9] or during periods of precipitation.

iv Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

v Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

e. LUP dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, LUP dischargers shall do the following:

i Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

[9] 50% or greater chance of producing precipitation.

ii Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

iii Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

iv Ensure retention of sampling, visual observation, and inspection records.

v Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

f. LUP dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations.

3. Non-Storm Water Management

a. LUP dischargers shall implement measures to control all non-storm water discharges during construction.

b. LUP dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

c. LUP dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

4. Erosion Control

a. LUP dischargers shall implement effective wind erosion control.

b. LUP dischargers shall provide effective soil cover for inactive[10] areas and all finished slopes, and utility backfill.

[10] Areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days

c. LUP dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

5. Sediment Controls

a. LUP dischargers shall establish and maintain effective perimeter controls as needed, and implement effective BMPs for all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

b. On sites where sediment basins are to be used, LUP dischargers shall, at minimum, design sediment basins according to the guidance provided in CASQA's Construction BMP Handbook.

c. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[11] in accordance with Table 2 below.

Table 2 – Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

d. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent off-site tracking of sediment.

e. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

f. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall inspect all immediate access roads. At a minimum daily and prior to any rain event, the discharger shall remove any

[11] Sheet flow length is the length that shallow, low velocity flow travels across a site.

sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

g. **Additional LUP Type 3 Requirement:** The Regional Water Board may require LUP Type 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

6. Run-on and Run-off Controls

a. LUP dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site-shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this Attachment.

b. Run-on and runoff controls are not required for Type 1 LUPs unless the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires such controls.

7. Inspection, Maintenance and Repair

a. All inspection, maintenance repair and sampling activities at the discharger's LUP location shall be performed or supervised by a QSP representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

b. LUP dischargers shall conduct visual inspections and observations daily during working hours (not recorded). At least once each 24-hour period during extended storm events, **LUP Type 2 & 3 dischargers** shall conduct visual inspections to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

c. Upon identifying failures or other shortcomings, as directed by the QSP, LUP dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

d. For each pre- and post-rain event inspection required, LUP dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format that includes the information described below.

e. The LUP discharger shall ensure that the checklist remains on-site or with the SWPPP. At a minimum, an inspection checklist should include:

i Inspection date and date the inspection report was written.

ii Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

iii Site information, including stage of construction, activities completed, and approximate area of the site exposed.

iv A description of any BMPs evaluated and any deficiencies noted.

v If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

vi Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

vii Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

viii Photographs taken during the inspection, if any.

ix Inspector's name, title, and signature.

K. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

1. Objectives

SWPPPs for all LUPs shall be developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

a. All pollutants and their sources, including sources of sediment, associated with construction activities associated with LUP activity are controlled;

b. All non-storm water discharges are identified and either eliminated, controlled, or treated;

c. BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from LUPs during construction; and

d. Stabilization BMPs installed to reduce or eliminate pollutants after construction is completed are effective and maintained.

2. SWPPP Implementation Schedule

a. LUPs for which PRDs have been submitted to the State Water Board shall develop a site/project location SWPPP prior to the start of land-disturbing activity in accordance with this Section and shall implement the SWPPP concurrently with commencement of soil-disturbing activities.

b. For an ongoing LUP involving a change in the LRP, the new LRP shall review the existing SWPPP and amend it, if necessary, or develop a new SWPPP within 15 calendar days to conform to the requirements set forth in this General Permit.

3. Availability

The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

L. REGIONAL WATER BOARD AUTHORITIES

1. Regional Water Boards shall administer the provisions of this General Permit. Administration of this General Permit may include, but is not limited to, requesting the submittal of SWPPPs, reviewing SWPPPs, reviewing monitoring and sampling and analysis reports, conducting compliance inspections, gathering site information by any medium including sampling, photo and video documentation, and taking enforcement actions.

2. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

3. Regional Water Boards may issue separate permits for discharges of storm water associated with construction activity to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a Regional Water Board, dischargers subject to those permits shall no longer be regulated by this General Permit.

4. Regional Water Boards may direct the discharger to reevaluate the LUP Type(s) for the project (or elements/areas of the project) and impose the appropriate level of requirements.

5. Regional Water Boards may terminate coverage under this General Permit for dischargers who negligently or with willful intent incorrectly determine or report their LUP Type (e.g., they determine themselves to be a LUP Type 1 when they are actually a Type 2).

6. Regional Water Boards may review PRDs and reject or accept applications for permit coverage or may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

7. Regional Water Boards may impose additional requirements on dischargers to satisfy TMDL implementation requirements or to satisfy provisions in their Basin Plans.

8. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

9. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

10. Based on an LUP's threat to water quality and complexity, the Regional Water Board may determine on a case-by-case basis that an LUP, or a portion of an LUP, is not eligible for the linear project requirements contained in this Attachment, and require that the discharger comply with all standard requirements in this General Permit.

11. The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

M. MONITORING AND REPORTING REQUIREMENTS

Table 3. LUP Summary of Monitoring Requirements

LUP Type	Visual Inspections				Sample Collection		
	Daily Site BMP	Pre-storm Event / Baseline	Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water	Non-Visible (when applicable)
1	X						X
2	X	X	X	X	X		X
3	X	X	X	X	X	X	X

1. Objectives

LUP dischargers shall prepare a monitoring and reporting program (M&RP) prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The M&RP must be a part of the SWPPP, included as an appendix or separate SWPPP chapter.

2. M&RP Implementation Schedule

a. LUP dischargers shall implement the requirements of this Section at the time of commencement of construction activity. LUP dischargers are responsible for implementing these requirements until construction activity is complete and the site is stabilized.

b. LUP dischargers shall revise the M&RP when:

i Site conditions or construction activities change such that a change in monitoring is required to comply with the requirements and intent of this General Permit.

ii The Regional Water Board requires the discharger to revise its M&RP based on its review of the document. Revisions may include, but not be limited to, conducting additional site inspections, submitting reports, and certifications. Revisions shall be submitted via postal mail or electronic e-mail.

iii The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

3. LUP Type 1 Monitoring and Reporting Requirements

a. LUP Type 1 Inspection Requirements

i LUP Type 1 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 1 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 1 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 1 dischargers shall conduct daily visual inspections to verify that:

(1) Appropriate BMPs for storm water and non-storm water are being implemented in areas where active construction is occurring (including staging areas);

(2) Project excavations are closed, with properly protected spoils, and that road surfaces are cleaned of excavated material and construction materials such as chemicals by either removing or storing the material in protective storage containers at the end of every construction day;

(3) Land areas disturbed during construction are returned to pre-construction conditions or an equivalent protection is used at the end of each workday to eliminate or minimize erosion and the possible discharge of sediment or other pollutants during a rain event.

v Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures

are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vi Inspection programs are required for LUP Type 1 projects where temporary and permanent stabilization BMPs are installed and are to be monitored after active construction is completed. Inspection activities shall continue until adequate permanent stabilization is established and, in areas where re-vegetation is chosen, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

b. LUP Type 1 Monitoring Requirements for Non-Visible Pollutants

LUP Type 1 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where the LUP Type 1 discharger believes pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help the LUP Type 1 discharger determine when to collect samples.

(2) The LUP Type 1 discharger is not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 1 dischargers shall collect samples down-gradient from all discharge locations where the visual observations were made triggering the monitoring, and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 1 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

iv LUP Type 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 1 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[12]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 1 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 1 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

c. <u>LUP Type 1 Visual Observation Exceptions</u>

i LUP Type 1 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. The Type 1 LUP discharger is not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

[12] Sample collected at a location unaffected by contruction activities.

ii If the LUP Type 1 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

d. Particle Size Analysis for Risk Justification

LUP Type 1 dischargers utilizing justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

4. LUP Type 2 & 3 Monitoring and Reporting Requirements

a. LUP Type 2 & 3 Inspection Requirements

i LUP Type 2 & 3 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 2 & 3 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 2 & 3 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 2 & 3 dischargers shall conduct daily visual inspections to verify that appropriate BMPs for storm water and non-storm water are being implemented and in place in areas where active construction is occurring (including staging areas).

v LUP Type 2 & 3 dischargers shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that BMPs have functioned adequately. During

extended storm events, inspections shall be required during normal working hours for each 24-hour period.

vi Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vii LUP Type 2 & 3 dischargers shall implement a monitoring program for inspecting projects that require temporary and permanent stabilization BMPs after active construction is complete. Inspections shall ensure that the BMPs are adequate and maintained. Inspection activities shall continue until adequate permanent stabilization is established and, in vegetated areas, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

viii If possible, LUP Type 2 & 3 dischargers shall install a rain gauge on-site at an accessible and secure location with readings made during all storm event inspections. When readings are unavailable, data from the closest rain gauge with publically available data may be used.

ix LUP Type 2 & 3 dischargers shall Include and maintain a log of the inspections conducted in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection.

b. LUP Type 2 & 3 Storm Water Effluent Monitoring Requirements

Table 4. LUP Type 2 & 3 Effluent Monitoring Requirements

LUP Type	Frequency	Effluent Monitoring
2	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	Turbidity, pH, and non-visible pollutant parameters (if applicable)
3	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	turbidity, pH, suspended sediment concentrations (SSC)[13] (only if turbidity NEL exceeded), plus non-visible pollutant parameters (if applicable)

i LUP Type 2 & 3 dischargers shall collect storm water grab samples from sampling locations characterizing discharges associated with

[13] Suspended Sediment Concentration monitoring is required for any Type 3 area that exceeds its turbidity NEL.

activity from the LUP active areas of construction. At a minimum, 3 samples shall be collected per day of discharge.

ii LUP Type 2 & 3 dischargers shall collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

iii LUP Type 2 & 3 dischargers shall ensure that storm water grab sample(s) obtained be representative of the flow and characteristics of the discharge.

iv LUP Type 2 & 3 dischargers shall analyze their effluent samples for:

(1) pH and turbidity
(2) Any additional parameter for which monitoring is required by the Regional Water Board.

v LUP Type 3 dischargers that have violated the turbidity daily average NEL shall analyze subsequent effluent samples for turbidity and SSC.

c. LUP Type 2 & 3 Storm Water Effluent Sampling Locations

i LUP Type 2 & 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire disturbed project or area.

ii LUP Type 2 & 3 dischargers may monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to exceedance of NALs or NELs (applicable to Type 3).

iii LUP Type 2 & 3 dischargers shall select analytical test methods from the list provided in Table 5 below.

iv LUP Type 2 & 3 dischargers shall ensure that all storm water sample collection preservation and handling shall be conducted in accordance with the “Storm Water Sample Collection and Handling Instructions” below.

d. LUP Type 3 Receiving Water Monitoring Requirements

i In the event that an LUP Type 3 discharger violates an applicable NEL contained in this General Permit and has a direct discharge to receiving waters, the LUP discharger shall subsequently sample Receiving Waters (RWs) for turbidity, pH (if applicable) and SSC.

ii LUP Type 3 dischargers that meet the project criteria in Appendix 3 of this General Permit and have more than 30 acres of soil disturbance in the project area or project section area designated as Type 3, shall comply with the Bioassessment requirements prior to commencement of construction activity.

iii LUP Type 3 dischargers shall obtain RW samples in accordance with the requirements of the Receiving Water Sampling Locations section (Section M.4.d of this Attachment).

e. LUP Type 3 Receiving Water Sampling Locations

i **Upstream/up-gradient RW samples**: LUP Type 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible to and upstream from the effluent discharge point.

ii **Downstream/down-gradient RW samples**: LUP Type 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible to and downstream from the effluent discharge point.

iii If two or more discharge locations discharge to the same receiving water, LUP Type 3 dischargers may sample the receiving water at a single upstream and downstream location.

f. LUP Type 2 & 3 Monitoring Requirements for Non-Visible Pollutants

LUP Type 2 & 3 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where LUP Type 2 & 3 dischargers believe pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help LUP Type 2 & 3 dischargers determine when to collect samples.

(2) LUP Type 2 & 3 dischargers are not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 2 & 3 dischargers shall collect samples down-gradient from the discharge locations where the visual observations were made triggering the monitoring and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 2 & 3 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

iv LUP Type 2 & 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 2 & 3 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[14]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 2 & 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 2 & 3 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 2 & 3 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

[14] Sample collected at a location unaffected by construction activities

g. LUP Type 2 & 3 Visual Observation and Sample Collection Exceptions

i LUP Type 2 & 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. Type 2 & 3 LUP dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

ii If the LUP Type 2 or 3 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

h. LUP Type 2 & 3 Storm Water Sample Collection and Handling Instructions

LUP Type 2 & 3 dischargers shall refer to Table 5 below for test Methods, detection Limits, and reporting Units. During storm water sample collection and handling, the LUP Type 2 & 3 discharger shall:

i Identify the parameters required for testing and the number of storm water discharge points that will be sampled. Request the laboratory to provide the appropriate number of sample containers, types of containers, sample container labels, blank chain of custody forms, and sample preservation instructions.

ii Determine how to ship the samples to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.

iii Use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers could contaminate your samples.

iv Prevent sample contamination, by not touching, or putting anything into the sample containers before collecting storm water samples.

v Not overfilling sample containers. Overfilling can change the analytical results.

vi Tightly screw the cap of each sample container without stripping the threads of the cap.

vii Complete and attach a label to each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.

viii Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into the shipping container. Samples should be kept as close to 4° C (39° F) as possible until arriving at the laboratory. Do not freeze samples.

ix Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.

x Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.

xi Designate and train personnel to collect, maintain, and ship samples in accordance with the above sample protocols and good laboratory practices.

xii Refer to the Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP) for more information on sampling collection and analysis. See http://www.waterboards.ca.gov/water_issues/programs/swamp/[15]

QAMP Link:
http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml

[15] Additional information regarding QAMP can be found at http://mpsl.mlml.calstate.edu/swqacompare.htm.

Table 5. Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Levels	Numeric Effluent Limitation (LUP Type 3)
pH	Field test with calibrated portable instrument	Type 2 & 3	0.2	pH units	Lower = 6.5 upper = 8.5	Lower = 6.0 upper = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Type 2 & 3	1	NTU	250 NTU	500 NTU
SSC	ASTM Method D 3977-97[16]	Type 3 if NEL is exceeded	5	Mg/L	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[17] fixed-count of 600 org/sample	Type 3 LUPs > 30 acres	N/A	N/A	N/A	N/A

i. LUP Type 2 & 3 Monitoring Methods

i The LUP Type 2 or 3 discharger's project M&RP shall include a description of the following items:

(1) Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

(2) Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program a copy of the Chain of Custody form used when handling and shipping samples.

[16] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394

[17] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

(3) Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section M.4.f above.

ii LUP Type 2 & 3 dischargers shall ensure that all sampling and sample preservation be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses shall be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). The LUP discharger shall conduct its own field analysis of pH and may conduct its own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

j. LUP Type 2 & 3 Analytical Methods

LUP Type 2 & 3 dischargers shall refer to Table 5 above for test Methods, detection Limits, and reporting Units.

i **pH**: LUP Type 2 & 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or pH test kit. The LUP discharger shall record pH monitoring results on paper and retain these records in accordance with Section M.4.o, below.

ii **Turbidity**: LUP Type 2 & 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results shall be recorded in the site log book in Nephelometric Turbidity Units (NTU).

iii **Suspended sediment concentration (SSC)**: LUP Type 3 dischargers exceeding their NEL, shall perform SSC analysis using ASTM Method D3977-97.

iv **Bioassessment**: LUP Type 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

k. Watershed Monitoring Option

If an LUP Type 2 or 3 discharger is part of a qualified regional watershed-based monitoring program the LUP Type 2 or 3 discharger may be eligible for relief from the monitoring requirements in this Attachment. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program if it determines that the watershed-based monitoring program will provide information to determine each discharger's compliance with the requirements of this General Permit.

l. Particle Size Analysis for Risk Justification

LUP Type 2 & 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

m. NAL Exceedance Report

i In the event that any effluent sample exceeds an applicable NAL, the Regional Water Boards may require LUP Type 2 & 3 dischargers to submit NAL Exceedance Reports.

ii LUP Type 2 & 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

iii LUP Type 2 & 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the exceedance report is filed.

iv LUP Type 2 & 3 dischargers shall include in the NAL Exceedance Report:

(1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit"); and
(2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

(3) Description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

n. NEL Violation Report

i All LUP Type 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

ii In the event that a LUP Type 3 discharger has violated an applicable NEL, the discharger shall submit an NEL Violation Report to the State Water Board no later than 24 hours after the NEL exceedance has been identified.

iii The LUP Type 3 discharger shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity.

iv The LUP Type 3 discharger shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the violation report is filed.

v The LUP Type 3 discharger shall include in the NEL Violation Report:

(1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit"); and
(2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
(3) Description of the current on-site BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

vi Compliance Storm Exemption:
In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event (see Section F.2.c of this Attachment), the LUP Type 3 discharger shall report the on-site rain gauge and nearby governmental rain gauge readings for verification.

o. Monitoring Records

LUP Type 2 & 3 dischargers shall ensure that records of all storm water monitoring information and copies of all reports (including Annual Reports) required by this General Permit be retained for a period of at least three years. LUP Type 2 & 3 dischargers may retain records off-

site and make them available upon request. These records shall include:

i The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge);

ii The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements;

iii The date and approximate time of analyses;

iv The individual(s) who performed the analyses;

v A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and all chain of custody forms;

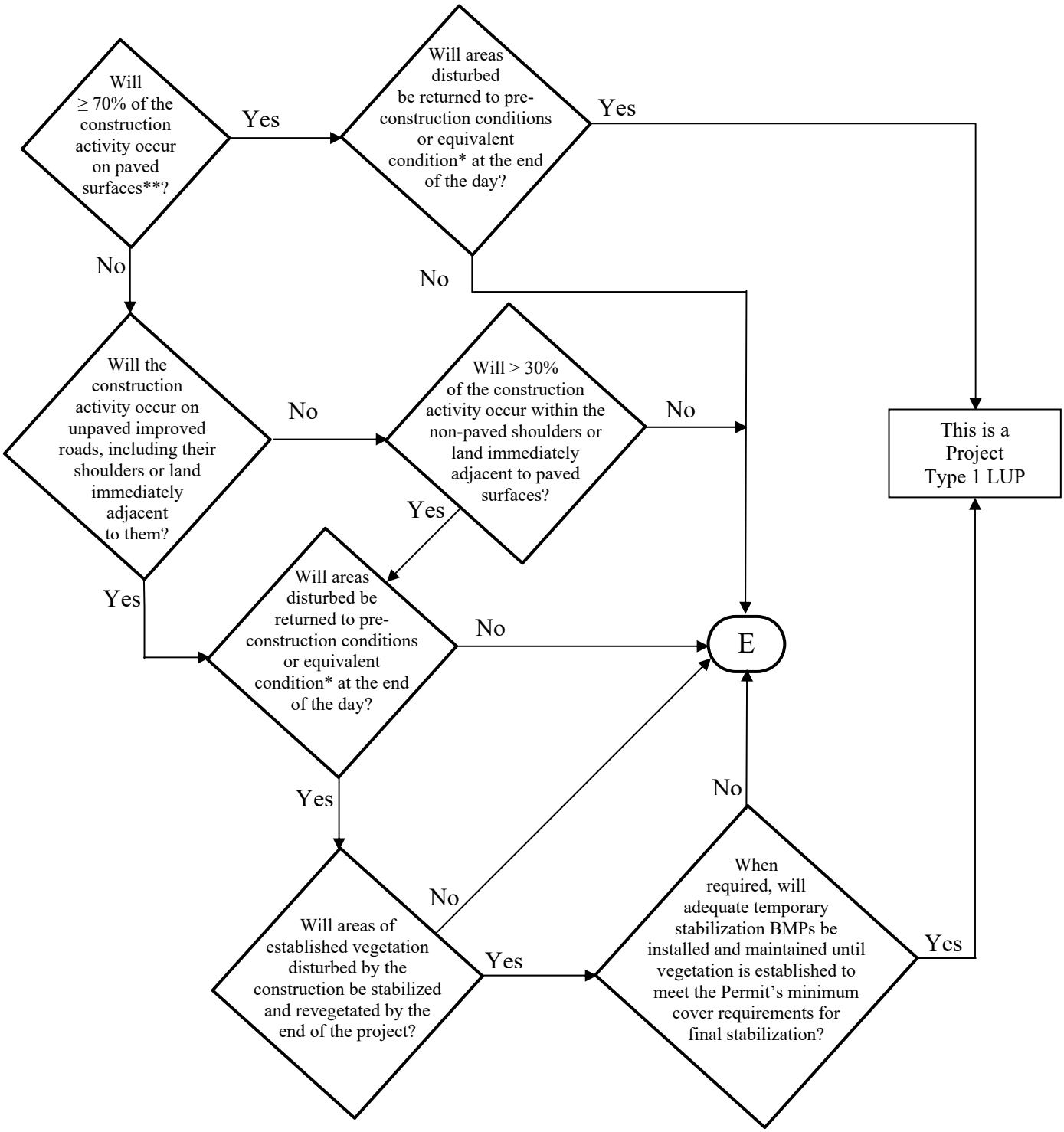
vi Quality assurance/quality control records and results;

vii Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Section M.4.a above);

viii Visual observation and sample collection exception records (see Section M.4.g above); and

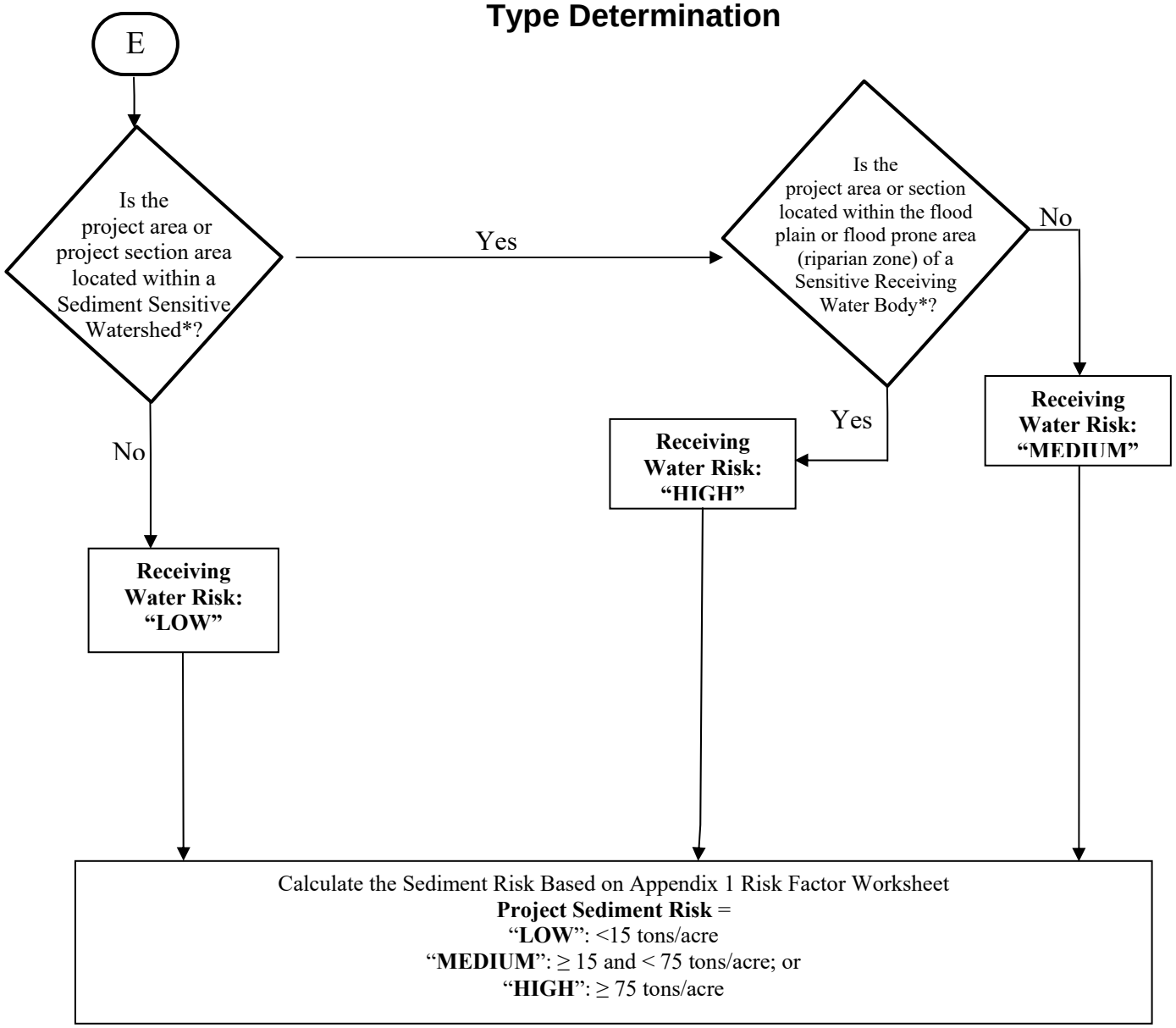
ix The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



*See Definition of Terms
** Or: "Will < 30% of the soil disturbance occur on unpaved surfaces?

ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



* See Definition of Terms

PROJECT SEDIMENT RISK

RECEIVING WATER RISK	**LOW**	**MEDIUM**	**HIGH**
LOW	Type 1	Type 1	Type 2
MEDIUM	Type 1	Type 2	Type 3
HIGH	Type 2	Type 3	Type 3

ATTACHMENT A.1
Definition of Terms

1. **Equivalent Condition** – Means disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.
2. **Linear Construction Activity** – Linear construction activity consists of underground/ overhead facilities that typically include, but are not limited to, any conveyance, pipe or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/ tower pad and cable/ wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/ borrow locations.
3. **Sediment Sensitive Receiving Water Body –** Defined as a water body segment that is listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or is designated with beneficial uses of SPAWN, MIGRATORY, and COLD.
4. **Sediment Sensitive Watershed –** Defined as a watershed draining into a receiving water body listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or a water body designated with beneficial uses of SPAWN, MIGRATORY, and COLD.

ATTACHMENT A.2
PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS FOR LINEAR UNDERGROUND/OVERHEAD PROJECTS TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT

GENERAL INSTRUCTIONS

Who Must Submit

This permit is effective on July 1, 2010.

The Legally Responsible Person (LRP) for construction activities associated with linear underground/overhead project (LUP) must electronically apply for coverage under this General Permit on or after July 1, 2010. If it is determined that the LUP construction activities require an NPDES permit, the Legally Responsible Person[1] (LRP) shall submit PRDs for this General Permit in accordance with the following:

LUPs associated with Private or Municipal Development Projects

1. For LUPs associated with pre-development and pre-redevelopment construction activities:

   The LRP must obtain coverage[2] under this General Permit for its pre-development and pre-redevelopment construction activities where the total disturbed land area of these construction activities is greater than 1 acre.

2. For LUPs associated with new development and redevelopment construction projects:

   The LRP must obtain coverage under this General Permit for LUP construction activities associated with new development and redevelopment projects where the total disturbed land area of the LUP is greater than 1 acre. Coverage under this permit is not required where the same LUP construction activities are covered by another NPDES permit.

LUPs not associated with private or municipal new development or redevelopment projects:

The LRP must obtain coverage under this General Permit on or after July 1, 2010 for its LUP construction activities where the total disturbed land area is greater than 1 acre.

PRD Submittal Requirements

Prior to the start of construction activities a LRP must submit PRDs and fees to the State Water Board for each LUP.

New and Ongoing LUPs

Dischargers of new LUPs that commence construction activities after the adoption date of this General Permit shall file PRDs prior to the commencement of construction and implement the SWPPP upon the start of construction.

[1] person possessing the title of the land on which the construction activities will occur for the regulated site
[2] obtain coverage means filing PRDs for the project.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Dischargers of ongoing LUPs that are currently covered under State Water Board Order No. 2003-0007 (Small LUP General Permit) shall electronically file Permit Registration Documents no later than July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 2003-0007-DWQ will be terminated. All existing dischargers shall be exempt from the risk determination requirements in Attachment A. All existing dischargers are therefore subject to LUP Type 1 requirements regardless of their project's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the risk determination requirements in Attachment A.

Where to Apply

The Permit Registration Documents (PRDs) can be found at www.waterboards.ca.gov/water_issues/programs/stormwater/

Fees

The annual fee for storm water permits are established through the State of California Code of Regulations.

When Permit Coverage Commences

To obtain coverage under the General Permit, the LRP must include the complete PRDs and the annual fee. All PRDs deemed incomplete will be rejected with an explanation as to what is required to complete submittal. Upon receipt of complete PRDs and associated fee, each discharger will be sent a waste discharger's identification (WDID) number.

Projects and Activities Not Defined As Construction Activity

1. LUP construction activity does not include routine maintenance projects to maintain original line and grade, hydraulic capacity, or original purpose of the facility. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

    - Maintain the original purpose of the facility, or hydraulic capacity.
    - Update existing lines[3] and facilities to comply with applicable codes, standards and regulations regardless if such projects result in increased capacity.
    - Repairing leaks.

    Routine maintenance does not include construction of new[4] lines or facilities resulting from compliance with applicable codes, standards and regulations.

[3] Update existing lines includes replacing existing lines with new materials or pipes.
[4] New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must acquire new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

2. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

3. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered small construction activities where all other LUP construction activities associated with the tie-in are covered by a NOI and SWPPP of a third party or municipal agency.

Calculating Land Disturbance Areas of LUPs

The total land area disturbed for LUPs is the sum of the:

- Surface areas of trenches, laterals and ancillary facilities, plus
- Area of the base of stockpiles on unpaved surfaces, plus
- Surface area of the borrow area, plus
- Areas of paved surfaces constructed for the project, plus
- Areas of new roads constructed or areas of major reconstruction to existing roads (e.g. improvements to two-track surfaces or road widening) for the sole purpose of accessing construction activities or as part of the final project, plus
- Equipment and material storage, staging, and preparation areas (laydown areas) not on paved surfaces, plus
- Soil areas outside the surface area of trenches, laterals and ancillary facilities that will be graded, and/or disturbed by the use of construction equipment, vehicles and machinery during construction activities.

Stockpiling Areas

Stockpiling areas, borrow areas and the removal of soils from a construction site may or may not be included when calculating the area of disturbed soil for a site depending on the following conditions:

- For stockpiling of soils onsite or immediately adjacent to a LUP site and the stockpile is not on a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation.

- The surface area of borrow areas that are onsite or immediately adjacent to a project site are to be included in the disturbed area calculation.

- For soil that is hauled offsite to a location owned or operated by the discharger that is not a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

- For soil that is brought to the project from an off-site location owned or operated by the discharger the surface area of the borrow pit is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

- Trench spoils on a paved surface that are either returned to the trench or excavation or hauled away from the project daily for disposal or reuse will not be included in the disturbed area calculation.

If you have any questions concerning submittal of PRDs, please call the State Water Board at (866) 563-3107.

ATTACHMENT B
PERMIT REGISTRATION DOCUMENTS (PRDs) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

A. All Linear Construction Projects shall comply with the PRD requirements in Attachment A.2 of this Order.

B. Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Storm Water Permit (General Permit). Any construction activity that is a part of a larger common plan of development or sale must also be permitted, regardless of size. (For example, if 0.5 acre of a 20-acre subdivision is disturbed by the construction activities of discharger A and the remaining 19.5 acres is to be developed by discharger B, discharger A must obtain a General Storm Water Permit for the 0.5 acre project).

Other discharges from construction activities that are covered under this General Permit can be found in the General Permit Section II.B.

It is the LRP's responsibility to obtain coverage under this General Permit by electronically submitting complete PRDs (Permit Registration Documents).

In all cases, the proper procedures for submitting the PRDs must be completed before construction can commence.

C. Construction Activity Not Covered By This General Permit

Discharges from construction that are not covered under this General Permit can be found in the General Permit Sections II.A &B..

D. Annual Fees and Fee Calculation

Annual fees are calculated based upon the total area of land to be disturbed not the total size of the acreage owned. However, the calculation includes all acres to be disturbed during the duration of the project. For example, if 10 acres are scheduled to be disturbed the first year and 10 in each subsequent year for 5 years, the annual fees would be based upon 50 acres of disturbance. The State Water Board will evaluate adding acreage to an existing Permit Waste Discharge Identification (WDID) number on a case-by-case basis. In general, any acreage to be considered must be contiguous to the permitted land area and the existing

SWPPP must be appropriate for the construction activity and topography of the acreage under consideration. As acreage is built out and stabilized or sold, the Change of Information (COI) form enables the applicant to remove those acres from inclusion in the annual fee calculation. Checks should be made payable to: State Water Board.

The Annual fees are established through regulations adopted by the State Water Board. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI, based on the total acreage to be disturbed during the life of the project. Annual fees are subject to change by regulation.

Dischargers that apply for and satisfy the Small Construction Erosivity Wavier requirements shall pay a fee of $200.00 plus an applicable surcharge, see the General Permit Section II.B.7.

E. When to Apply

LRP's proposing to conduct construction activities subject to this General Permit must submit their PRDs prior to the commencement of construction activity.

F. Requirements for Completing Permit Registration Documents (PRDs)

All dischargers required to comply with this General Permit shall electronically submit the required PRDs for their type of construction as defined below.

G. Standard PRD Requirements (All Dischargers)

1. Notice of Intent
2. Risk Assessment (Standard or Site-Specific)
3. Site Map
4. SWPPP
5. Annual Fee
6. Certification

H. Additional PRD Requirements Related to Construction Type

1. Discharger in unincorporated areas of the State (not covered under an adopted Phase I or II SUSMP requirements) and that are not a linear project shall also submit a completed:
   a. Post-Construction Water Balance Calculator (Appendix 2).

2. Dischargers who are proposing to implement ATS shall submit:
   a. Complete ATS Plan in accordance with Attachment F at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation.

b. Certification proof that design done by a professional in accordance with Attachment F.

3. Dischargers who are proposing an alternate Risk Justification:
   a. Particle Size Analysis.

I. Exceptions to Standard PRD Requirements

Construction sites with an R value less than 5 as determined in the Risk Assessment are not required to submit a SWPPP.

J. Description of PRDs

1. Notice of Intent (NOI)

2. Site Map(s) Includes:
   a. The project's surrounding area (vicinity)
   b. Site layout
   c. Construction site boundaries
   d. Drainage areas
   e. Discharge locations
   f. Sampling locations
   g. Areas of soil disturbance (temporary or permanent)
   h. Active areas of soil disturbance (cut or fill)
   i. Locations of all runoff BMPs
   j. Locations of all erosion control BMPs
   k. Locations of all sediment control BMPs
   l. ATS location (if applicable)
   m. Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
   n. Locations of all post-construction BMPs
   o. Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices

3. **SWPPPs**
   A site-specific SWPPP shall be developed by each discharger and shall be submitted with the PRDs.

4. **Risk Assessment**
   All dischargers shall use the Risk Assessment procedure as describe in the General Permit Appendix 1.

   a. The Standard Risk Assessment includes utilization of the following:
      i. Receiving water Risk Assessment interactive map

ii. EPA Rainfall Erosivity Factor Calculator Website
iii. Sediment Risk interactive map
iv. Sediment sensitive water bodies list

b. The Site-Specific Risk Assessment includes the completion of the hand calculated R value Risk Calculator

5. **Post-Construction Water Balance Calculator**
All dischargers subject to this requirement shall complete the Water Balance Calculator (in Appendix 2) in accordance with the instructions.

6. **ATS Design Document and Certification**
All dischargers using ATS must submit electronically their system design (as well as any supporting documentation) and proof that the system was designed by a qualified ATS design professional (See Attachment F).

To obtain coverage under the General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

Questions?

If you have any questions on completing the PRDs please email stormwater@waterboards.ca.gov or call (866) 563-3107.

ATTACHMENT C
RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.

2. Risk Level 1 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector’s name, title, and signature.

H. Rain Event Action Plan

Not required for Risk Level 1 dischargers.

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

1. **Construction Site Monitoring Program Requirements**

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

   a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and

d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):

i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 1 – Visual Observation Exemptions**

a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. **Risk Level 1 – Monitoring Methods**

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. **Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. **Risk Level 1 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[2]

h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. **Risk Level 1 – Particle Size Analysis for Project Risk Justification**

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. **Risk Level 1 – Records**

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

[2] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).

i. Visual observation and sample collection exception records (see Section I.4 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

ATTACHMENT D
RISK LEVEL 2 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 2 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk level 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 2 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 2 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 2 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly.

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 2 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 2 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain all fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 2 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 2 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 2 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 2 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 2 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 2 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 2 dischargers shall implement effective wind erosion control.

2. Risk Level 2 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 2 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 2 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 2 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

3. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

4. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage.
[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

F. Run-on and Run-off Controls

Risk Level 2 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 2 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 2 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 2 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 2 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 2 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any

likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

    a. Site Address
    b. Calculated Risk Level (2 or 3)
    c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
    d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
    e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number

4. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP include in the REAP, at a minimum, the following project phase information:

    a. Activities associated with each construction phase
    b. Trades active on the construction site during each construction phase
    c. Trade contractor information
    d. Suggested actions for each project phase

5. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

    a. Site Address
    b. Calculated Risk Level (2 or 3)
    c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number

d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
f. Trades active on site during Inactive Construction
g. Trade contractor information
h. Suggested actions for inactive construction sites

6. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 2 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
2	X	X	X	X	X	X	

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs)/Numeric Effluent Limitations (NELs) of this General Permit.

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 2 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 2 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 2 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 2 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 2 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 2 dischargers shall visually observe (inspect):

i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i and c.iii above, Risk Level 2 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 2 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 2 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 2 – Water Quality Sampling and Analysis**

a. Risk Level 2 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 2 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 2 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

<u>Storm Water Effluent Monitoring Requirements</u>

d. Risk Level 2 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

ii. Any additional parameters for which monitoring is required by the Regional Water Board.

5. **Risk Level 2 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 2 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 2 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

c. Risk Level 2 dischargers shall ensure that storm water discharge collected and observed represent[4] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 2 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

e. Risk Level 2 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 2 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 “Storm Water Sample Collection and Handling Instructions” below.

6. **Risk Level 2 – Visual Observation and Sample Collection Exemptions**

a. Risk Level 2 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk

[4] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment-laden water even if most water flowing through the fence is clear.

Level 2 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 2 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 2 – Storm Water Sample Collection and Handling Instructions**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. Risk Level 2 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

c. Risk Level 2 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[5]

8. **Risk Level 2 – Monitoring Methods**

a. Risk Level 2 dischargers shall include a description of the following items in the CSMP:

i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample

[5] Additional information regarding SWAMP's QAPrP and QAMP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf.
QAMP: http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml.

collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.

iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

b. Risk Level 2 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 2 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services. Risk Level 2 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 2 – Analytical Methods**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. **pH**: Risk Level 2 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 2 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 2 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

10. **Risk Level 2 - Non-Storm Water Discharge Monitoring Requirements**

    a. Visual Monitoring Requirements:

        i. Risk Level 2 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

        ii. Risk Level 2 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

        iii. Risk Level 2 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 2 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

    b. Effluent Sampling Locations:

        i. Risk Level 2 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

        ii. Risk Level 2 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

        iii. Risk Level 2 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. **Risk Level 2 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 2 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 2 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 2 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 2 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 2 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 2 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 2 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 2 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[6]

h. Risk Level 2 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 2 – Watershed Monitoring Option**

Risk Level 2 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program

[6] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. **Risk Level 2 – Particle Size Analysis for Project Risk Justification**

Risk Level 2 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 2 – Records**

Risk Level 2 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 2 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections;

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 2 – NAL Exceedance Report**

a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 2 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 2 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

c. Risk Level 2 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 2 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

Table 3 – Risk Level 2 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	1	NTU	250 NTU
		For ATS discharges	1	NTU	N/A

ATTACHMENT E
RISK LEVEL 3 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 3 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric –Risk Level 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU. In addition, Risk Level 3 dischargers are subject to a pH NEL of 6.0-9.0 and a turbidity NEL of 500 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 3 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 3 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 3 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protecting stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 3 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 3 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinuing the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 3 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 3 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 3 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 3 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 3 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 3 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 3 dischargers shall implement effective wind erosion control.

2. Risk Level 3 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 3 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 3 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

3. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

4. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage
[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

8. **Additional Risk Level 3 Requirement:** The Regional Water Board may require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

F. Run-on and Run-off Controls

Risk Level 3 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 3 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 3 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 3 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 3 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 3 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

    a. Inspection date and date the inspection report was written.

    b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

    c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

    d. A description of any BMPs evaluated and any deficiencies noted.

    e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

    f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

    g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

    h. Photographs taken during the inspection, if any.

i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The QSP shall obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

   a. Site Address.
   b. Calculated Risk Level (2 or 3).
   c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
   d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
   e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.

4. **Additional Risk Level 3 Requirement:** The QSP shall include in the REAP, at a minimum, the following project phase information:

   a. Activities associated with each construction phase.
   b. Trades active on the construction site during each construction phase.
   c. Trade contractor information.
   d. Suggested actions for each project phase.

5. **Additional Risk Level 3 Requirement:** The QSP shall develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

a. Site Address.
b. Calculated Risk Level (2 or 3).
c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.
f. Trades active on site during Inactive Construction.
g. Trade contractor information.
h. Suggested actions for inactive construction sites.

6. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 3 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
3	X	X	X	X	X	X	X[4]

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Program in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

[4] When NEL exceeded

a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs)/Numeric Effluent Limitations (NELs) of this General Permit.

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 3 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 3 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 3 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 3 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 3 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 3 dischargers shall visually observe (inspect):

i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i. and c.iii above, Risk Level 3 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 3 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 3 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 3 – Water Quality Sampling and Analysis**

a. Risk Level 3 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 3 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 3 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

<u>Storm Water Effluent Monitoring Requirements</u>

d. Risk Level 3 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

ii. Any additional parameters for which monitoring is required by the Regional Water Board.

e. Risk 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

f. Risk Level 3 discharger sites that have violated the turbidity daily average NEL shall analyze subsequent effluent samples for all the parameters specified in Section I.4.e, above, and Suspended Sediment Concentration (SSC).

Receiving Water Monitoring Requirements

g. In the event that a Risk Level 3 discharger violates an NEL contained in this General Permit and has a direct discharge into receiving waters, the Risk Level 3 discharger shall subsequently sample receiving waters (RWs) for all parameter(s) required in Section I.4.e above for the duration of coverage under this General Permit.

h. Risk Level 3 dischargers disturbing 30 acres or more of the landscape and with direct discharges into receiving waters shall conduct or participate in benthic macroinvertebrate bioassessment of RWs prior to commencement of construction activity (See Appendix 3).

i. Risk Level 3 dischargers shall obtain RW samples in accordance with the Receiving Water sampling location section (Section I.5), below.

5. **Risk Level 3 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 3 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

c. Risk Level 3 dischargers shall ensure that storm water discharge collected and observed represent[5] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 3 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

e. Risk Level 3 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 3 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 "Storm Water Sample Collection and Handling Instructions" below.

Receiving Water Sampling Locations

h. **Upstream/up-gradient RW samples**: Risk Level 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible and upstream from the effluent discharge point.

i. **Downstream/down-gradient RW samples**: Risk Level 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible and downstream from the effluent discharge point.

j. If two or more discharge locations discharge to the same receiving water, Risk Level 3 dischargers may sample the receiving water at a single upstream and downstream location.

[5] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment-laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment laden water even if most water flowing through the fence is clear.

6. **Risk Level 3 – Visual Observation and Sample Collection Exemptions**

   a. Risk Level 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 3 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

      i. During dangerous weather conditions such as flooding and electrical storms.

      ii. Outside of scheduled site business hours.

   b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 3 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 3 – Storm Water Sample Collection and Handling Instructions**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

   b. Risk Level 3 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

   c. Risk Level 3 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[6]

[6] Additional information regarding SWAMP's QAPrP and QAMP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf
QAMP: http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml

8. **Risk Level 3 – Monitoring Methods**

   a. Risk Level 3 dischargers shall include a description of the following items in the CSMP:

      i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

      ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.

      iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

   b. Risk Level 3 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 3 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). Risk Level 3 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 3 – Analytical Methods**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. **pH**: Risk Level 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 3 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

d. **Suspended sediment concentration (SSC)**: Risk Level 3 dischargers shall perform SSC analysis using ASTM Method D3977-97.

e. **Bioassessment**: Risk Level 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

10. **Risk Level 3 - Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 3 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 3 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 3 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 3 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to

reduce or prevent pollutants from contacting non-storm water discharges.

b. Effluent Sampling Locations:

i. Risk Level 3 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

ii. Risk Level 3 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

iii. Risk Level 3 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

11. **Risk Level 3 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 3 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 3 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 3 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 3 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 3 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 3 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[7]

h. Risk Level 3 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 3 – Watershed Monitoring Option**

Risk Level 3 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. **Risk Level 3 – Particle Size Analysis for Project Risk Justification**

Risk Level 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 3 – Records**

Risk Level 3 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 3 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

[7] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 3 – NAL Exceedance Report**

a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity In this General Permit.

c. Risk Level 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 3 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

16. **Risk Level 3 – NEL Violation Report**

a. Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

b. In the event that a discharger has violated an applicable NEL, Risk Level 3 dischargers shall submit an NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.

c. Risk Level 3 dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.

d. Risk Level 3 dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.

e. Risk Level 3 dischargers shall include in the NEL Violation Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”);

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

iii. A Description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

f. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, Risk level 3 discharger shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

17. **Risk Level 3 – Bioassessment**

a. Risk Level 3 dischargers with a total project-related ground disturbance exceeding 30 acres shall:

i. Conduct bioassessment monitoring, as described in Appendix 3.

ii. Include the collection and reporting of specified in stream biological data and physical habitat.

iii. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).[8]

b. Risk Level 3 dischargers qualifying for bioassessment, where construction commences out of an index period for the site location shall:

i. Receive Regional Board approval for the sampling exception.

ii. Conduct bioassessment monitoring, as described in Appendix 3.

iii. Include the collection and reporting of specified instream biological data and physical habitat.

iv. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).

OR

v. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.

vi. Send a copy of the check to the Regional Water Board office for the site's region.

vii. Invest $**7,500.00 X The number of samples required** into the SWAMP program as compensation (upon regional board approval).

[8] http://www.waterboards.ca.gov/water_issues/programs/swamp/.

Table 3 – Risk Level 3 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	Risk Level 3 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 3 Discharges other than ATS	1	NTU	250 NTU	500 NTU
		For ATS discharges	1	NTU	N/A	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample
SSC	ASTM Method D 3977-97[9]	Risk Level 3 (if NEL exceeded)	5	mg/L	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[10] fixed-count of 600 org/sample	Risk Level 3 projects> 30 acres	N/A	N/A	N/A	N/A

[9] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394.

[10] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

ATTACHMENT F:
Active Treatment System (ATS) Requirements

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with a calibrated portable instrument	For ATS discharges	1	NTU	N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

A. Dischargers choosing to implement an Active Treatment System (ATS) on their site shall comply with all of the requirements in this Attachment.

B. The discharger shall maintain a paper copy of each ATS specification onsite in compliance with the record retention requirements in the Special Provisions of this General Permit.

C. ATS Design, Operation and Submittals

1. The ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.

2. The discharger shall ensure that the ATS is designed in a manner to preclude the accidental discharge of settled floc[1] during floc pumping or related operations.

3. The discharger shall design outlets to dissipate energy from concentrated flows.

4. The discharger shall install and operate an ATS by assigning a lead person (or project manager) who has either a minimum of five years construction storm

[1] Floc is defined as a clump of solids formed by the chemical action in ATS systems.

water experience or who is a licensed contractors specifically holding a California Class A Contractors license.[2]

5. The discharger shall prepare an ATS Plan that combines the site-specific data and treatment system information required to safely and efficiently operate an ATS. The ATS Plan shall be electronically submitted to the State Water Board at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation. At a minimum, the ATS Plan shall include:

   a. ATS Operation and Maintenance Manual for All Equipment.

   b. ATS Monitoring, Sampling & Reporting Plan, including Quality Assurance/Quality Control (QA/QC).

   c. ATS Health and Safety Plan.

   d. ATS Spill Prevention Plan.

6. The ATS shall be designed to capture and treat (within a 72-hour period) a volume equivalent to the runoff from a 10-year, 24-hour storm event using a watershed runoff coefficient of 1.0.

D. Treatment – Chemical Coagulation/Flocculation

1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003).

2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS.

3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics.

E. Residual Chemical and Toxicity Requirements

1. The discharger shall utilize a residual chemical test method that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold

[2] Business and Professions Code Division 3, Chapter 9, Article 4, Class A Contractor: A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill. [http://www.cslb.ca.gov/General-Information/library/licensing-classifications.asp].

concentration[3] (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used.

2. The discharger shall utilize a residual chemical test method that produces a result within one hour of sampling.

3. The discharger shall have a California State certified laboratory validate the selected residual chemical test. Specifically the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.

4. If the discharger cannot utilize a residual chemical test method that meets the requirements above, the discharger shall operate the ATS in Batch Treatment[4] mode.

5. A discharger planning to operate in Batch Treatment mode shall perform toxicity testing in accordance with the following:

   a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge[5]. All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[6]

   b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.

   c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.

   d. The discharger shall electronically report all acute toxicity testing.

[3] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be:
The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

[4] Batch Treatment mode is defined as holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full.

[5] This requirement only requires that the test be initiated prior to discharge.

[6] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

F. Filtration

1. The ATS shall include a filtration step between the coagulant treatment train and the effluent discharge. This is commonly provided by sand, bag, or cartridge filters, which are sized to capture suspended material that might pass through the clarifier tanks.

2. Differential pressure measurements shall be taken to monitor filter loading and confirm that the final filter stage is functioning properly.

G. Residuals Management

1. Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.

2. Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

H. ATS Instrumentation

1. The ATS shall be equipped with instrumentation that automatically measures and records effluent water quality data and flow rate.

2. The minimum data recorded shall be consistent with the Monitoring and Reporting requirements below, and shall include:

    a. Influent Turbidity

    b. Effluent Turbidity

    c. Influent pH

    d. Effluent pH

    e. Residual Chemical

    f. Effluent Flow rate

    g. Effluent Flow volume

3. Systems shall be equipped with a data recording system, such as data loggers or webserver-based systems, which records each measurement on a frequency no longer than once every 15 minutes.

4. Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days continuous data.

5. Instrumentation systems shall be interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.

6. The system shall also assure that upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.

7. Instrumentation (flow meters, probes, valves, streaming current detectors, controlling computers, etc.) shall be installed and maintained per manufacturer's recommendations, which shall be included in the QA/QC plan.

8. The QA/QC plan shall also specify calibration procedures and frequencies, instrument method detection limit or sensitivity verification, laboratory duplicate procedures, and other pertinent procedures.

9. The instrumentation system shall include a method for controlling coagulant dose, to prevent potential overdosing. Available technologies include flow/turbidity proportional metering, periodic jar testing and metering pump adjustment, and ionic charge measurement controlling the metering pump.

I. ATS Effluent Discharge

1. ATS effluent shall comply with all provisions and prohibitions in this General Permit, specifically the NELs.

2. NELs for discharges from an ATS:

   a. Turbidity of all ATS discharges shall be less than 10 NTU for daily flow-weighted average of all samples and 20 NTU for any single sample.

   b. Residual Chemical shall be < 10% of MATC[7] for the most sensitive species of the chemical used.

3. If an analytical effluent sampling result is outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General

[7] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Permit and shall electronically file the results in violation within 24-hours of obtaining the results.

4. If ATS effluent is authorized to discharge into a sanitary sewer system, the discharger shall comply with any pre-treatment requirements applicable for that system. The discharger shall include any specific criteria required by the municipality in the ATS Plan.

5. Compliance Storm Event:

   Discharges of storm water from ATS shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for ATS discharges is the 10 year, 24 hour storm, as determined using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca10y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca10y24.gif

   This exemption is dependent on the submission of rain gauge data verifying the storm event is equal to or larger than the Compliance Storm.

J. Operation and Maintenance Plan

1. Each Project shall have a site-specific Operation and Maintenance (O&M) Manual covering the procedures required to install, operate and maintain the ATS.[8]

2. The O&M Manual shall only be used in conjunction with appropriate project-specific design specifications that describe the system configuration and operating parameters.

3. The O&M Manual shall have operating manuals for specific pumps, generators, control systems,and other equipment.

K. Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

4. A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:

   a. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.

[8] The manual is typically in a modular format covering generalized procedures for each component that is utilized in a particular system.

b. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable minimum MDLs for each method, specific to individual coagulants, shall be specified.

c. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

L. Personnel Training

1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.

2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.

3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:

   a. Coagulation Basics –Chemistry and physical processes

   b. ATS System Design and Operating Principles

   c. ATS Control Systems

   d. Coagulant Selection – Jar testing, dose determination, etc.

   e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety

   f. Monitoring, Sampling, and Analysis

   g. Reporting and Recordkeeping

   h. Emergency Response

M. Active Treatment System (ATS) Monitoring Requirements

Any discharger who deploys an ATS on their site shall conduct the following:

1. Visual Monitoring

   a. A designated responsible person shall be on site daily at all times during treatment operations.

b. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log.

   i. The log shall include the name and phone number of the person responsible for system operation and monitoring.

   ii. The log shall include documentation of the responsible person's training.

2. Operational and Compliance Monitoring

   a. Flow shall be continuously monitored and recorded at not greater than 15-minute intervals for total volume treated and discharged.

   b. Influent and effluent pH must be continuously monitored and recorded at not greater than 15-minute intervals.

   c. Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at not greater than 15-minute intervals.

   d. The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.

   e. Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.

   f. Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.

   g. Effluent shall be monitored and recorded for residual chemical/additive levels.

   h. If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

3. Toxicity Monitoring

   A discharger operating in batch treatment mode shall perform toxicity testing in accordance with the following:

   a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge.[9] All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS)

[9] This requirement only requires that the test be initiated prior to discharge.

Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[10]

b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas or* Rainbow trout *Oncorhynchus mykiss* may be used as a substitute for fathead minnow.

c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.[11]

4. Reporting and Recordkeeping

At a minimum, every 30 days a LRP representing the discharger shall access the State Water Boards Storm Water Mulit-Application and Report Tracking system (SMARTS) and electronically upload field data from the ATS. Records must be kept for three years after the project is completed .

5. Non-compliance Reporting

a. Any indications of toxicity or other violations of water quality objectives shall be reported to the appropriate regulatory agency as required by this General Permit.

b. Upon any measurements that exceed water quality standards, the system operator shall immediately notify his supervisor or other responsible parties, who shall notify the Regional Water Board.

c. If any monitoring data exceeds any applicable NEL in this General Permit, the discharger shall electronically submit a NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.

i. ATS dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.

ii. ATS dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.

iii. ATS dischargers shall include in the NEL Violation Report:

[10] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.
[11] http://www.epa.gov/waterscience/methods/wet/.

(1) The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”);

(2) The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

(3) A description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

iv. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, ATS dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

Risk Determination Worksheet

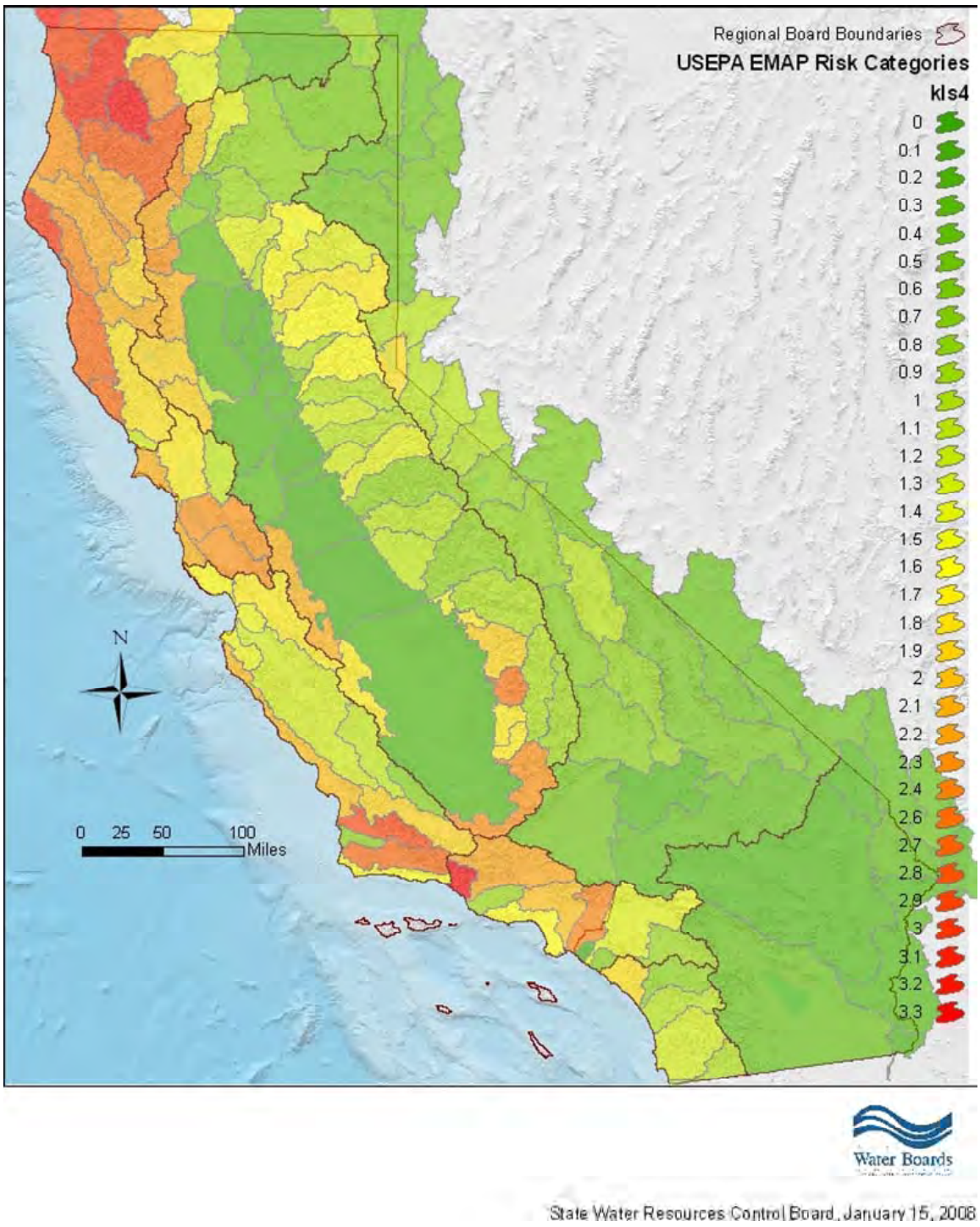
Step 1 Determine Sediment Risk via one of the options listed:
1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map
2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data

Step 2 Determine Receiving Water Risk via one of the options listed:
1. GIS map of Sediment Sensitive Watersheds provided (in development)
2. List of Sediment Sensitive Watersheds provided

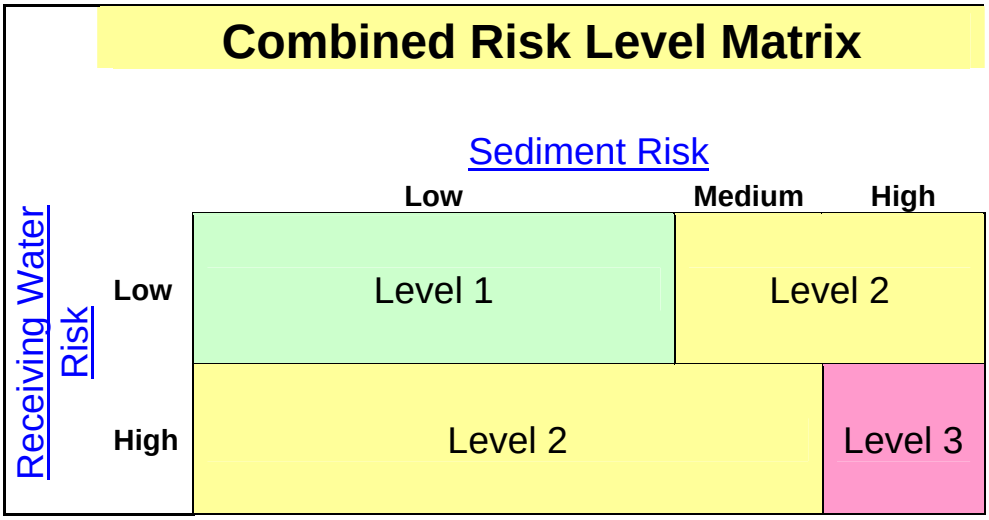
Step 3 Determine Combined Risk Level

Sediment Risk Factor Worksheet	Entry
A) R Factor	
Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm	
R Factor Value	0
B) K Factor (weighted average, by area, for all site soils)	
The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. Site-specific K factor guidance	
K Factor Value	0
C) LS Factor (weighted average, by area, for all slopes)	
The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. LS Table	
LS Factor Value	0
Watershed Erosion Estimate (=RxKxLS) in tons/acre	0
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre	**Low**

For the GIS Map Method, the R factor for the project is calculated using the online calculator at (see cell to right). The product of K and LS are shown on the figure below. To determine soil loss in tons per acre, multiply the R factor times the value for K times LS from the map.
http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm



Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment**? (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml **OR**	**Yes**	**High**
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbguse.asp		



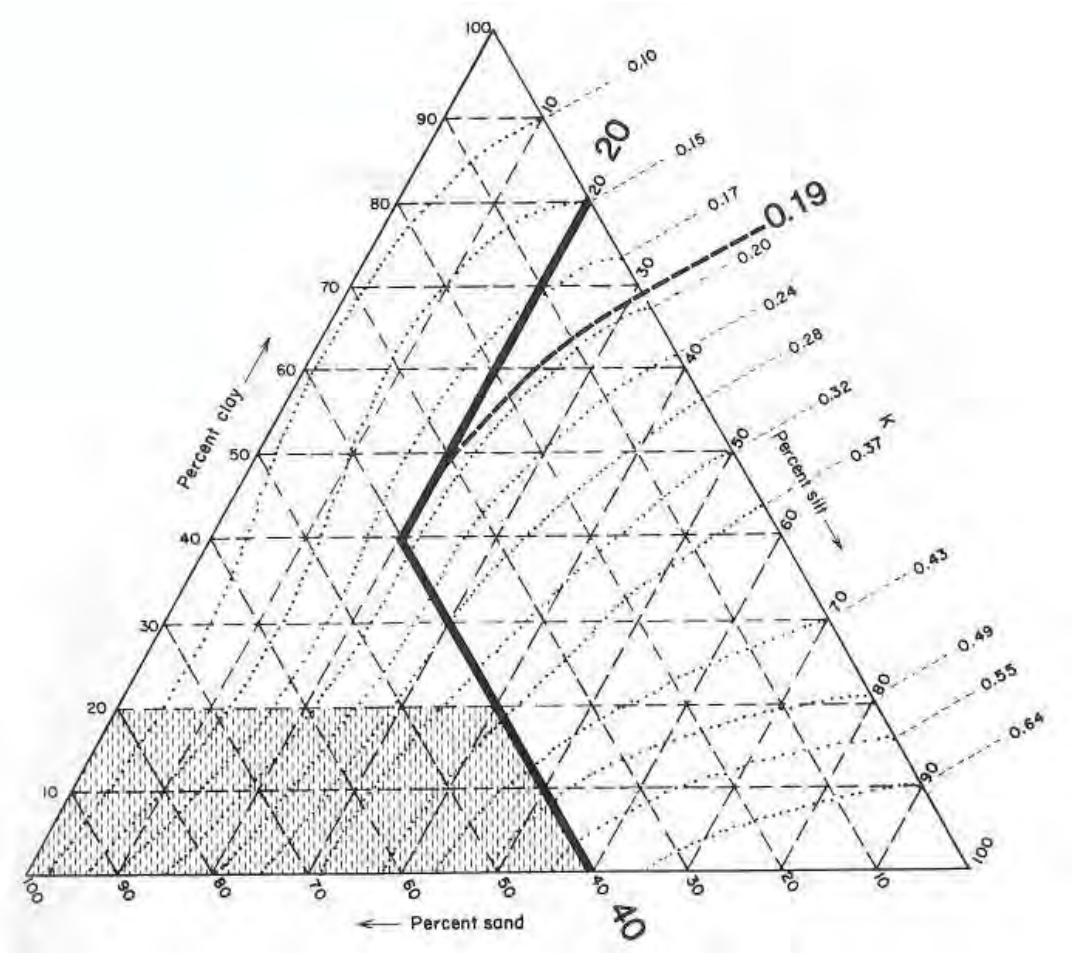
Project Sediment Risk: **Low**

Project RW Risk: **High**

Project Combined Risk: **Level 2**

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.
The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability).
Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.

Sheet Flow Length (ft)	Average Watershed Slope (%)														
	0.2	**0.5**	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**	**16.0**	**20.0**	
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	0.41	
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	0.84	
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	1.24	
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	2.31	2.73	3.57	
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	3.09	3.68	4.85	
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	3.60	4.48	5.37	7.16	
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	4.09	5.11	6.15	8.23	1
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	5.01	6.30	7.60	10.24	1
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	6.67	8.45	10.26	13.94	1
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	8.17	10.40	12.69	17.35	2
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	9.57	12.23	14.96	20.57	2

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

APPENDIX 2:
Post-Construction Water Balance Performance Standard Spreadsheet

The discharger shall submit with their Notice of Intent (NOI) the following information to demonstrate compliance with the New and Re-Development Water Balance Performance Standard.

Map Instructions

The discharger must submit a small-scale topographic map of the site to show the existing contour elevations, pre- and post-construction drainage divides, and the total length of stream in each watershed area. Recommended scales include 1 in. = 20 ft., 1 in. = 30 ft., 1 in. = 40 ft., or 1 in = 50 ft. The suggested contour interval is usually 1 to 5 feet, depending upon the slope of the terrain. The contour interval may be increased on steep slopes. Other contour intervals and scales may be appropriate given the magnitude of land disturbance.

Spreadsheet Instructions

The intent of the spreadsheet is to help dischargers calculate the project-related increase in runoff volume and select impervious area and runoff reduction credits to reduce the project-related increase in runoff volume to pre-project levels.

The discharger has the option of using the spreadsheet (**Appendix 2.1)** or a more sophisticated, watershed process-based model (e.g. Storm Water Management Model, Hydrological Simulation Program Fortran) to determine the project-related increase in runoff volume.

In* Appendix 4.1**, ***you must complete the worksheet for each land use/soil type combination for each project sub-watershed.

Steps 1 through 9 pertain specifically to the Runoff Volume Calculator:

Step 1: Enter the county where the project is located in cell H3.

Step 2: Enter the soil type in cell H6.

Step 3: Enter the existing pervious (dominant) land use type in cell H7.

Step 4: Enter the proposed pervious (dominant) land use type in cell H8.

Step 5: Enter the total project site area in cell H11 or J11.

Step 6: Enter the sub-watershed area in cell H12 or J12.

Step 7: Enter the existing rooftop area in cell H17 or J17, the existing non-rooftop impervious area in cell H18 or J18, the proposed rooftop area in cell H19 or J19, and the proposed non-rooftop impervious area in cell H20 or J20

Step 8: Work through each of the impervious area reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Step 9: Work through each of the impervious volume reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Non-structural Practices Available for Crediting

- ***Porous Pavement***
- ***Tree Planting***
- ***Downspout Disconnection***
- ***Impervious Area Disconnection***
- ***Green Roof***
- ***Stream Buffer***
- ***Vegetated Swales***
- ***Rain Barrels and Cisterns***
- ***Landscaping Soil Quality***

Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.

(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below

(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.

SACRAMENTO

(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recgonize any of these locations, leave this drop-down menu at location. The average value for the County will be used.

SACRAMENTO FAA ARPT

Project Information

Project Name:	***Optional***
Waste Discharge Identification (WDID):	***Optional***
Date:	***Optional***
Sub Drainage Area Name (from map):	***Optional***

Runoff Calculations

(Step 2) Indicate the Soil Type (dropdown menu to right): ***Group C Soils*** — **Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.**

(Step 3) Indicate the existing **dominant** non-built land Use Type (dropdown menu to right): ***Wood & Grass: <50% ground cover***

(Step 4) Indicate the proposed **dominant** non-built land Use Type (dropdown menu to right): ***Lawn, Grass, or Pasture covering more than 75% of the open space***

Runoff Curve Numbers

Existing Pervious Runoff Curve Number	**82**
Proposed Development Pervious Runoff Curve Number	**74**

Design Storm

Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	**0.62**	**in**
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	**0.44**	**In**
P used for calculations (in) (the greater of the above two criteria)	**0.62**	**In**

^Available at www.cabmphandbooks.com

Pre-Project Runoff Volume (cu ft)	**247**	**Cu.Ft.**
Project-Related Runoff Volume Increase w/o credits (cu ft)	**0**	**Cu.Ft.**
Project-Related Volume Increase with Credits (cu ft)	**0**	**Cu.Ft.**

You have achieved your minimum requirements

	Complete Either Sq Ft	Acres	Acres
(Step 5) Total Project Site Area:		**5.00**	**5.00**
(Step 6) Sub-watershed Area:		**5.00**	**5.00**
Percent of total project :		**100%**	

(Step 7) Sub-watershed Conditions	Complete Either Sq Ft	Acres	Calculated Acres
Sub-watershed Area (acres)			**5.00**
Existing Rooftop Impervious Coverage		**0**	**0.00**
Existing Non-Rooftop Impervious Coverage		**0**	**0.00**
Proposed Rooftop Impervious Coverage		**0**	**0.00**
Proposed Non-Rooftop Impervious Coverage		**0**	**0.00**

Credits	Acres	Square Feet
Porous Pavement	**0.00**	**0**
Tree Planting	**0.00**	**0**
Downspout Disconnection	**0.00**	**0**
Impervious Area Disconnection	**0.00**	**0**
Green Roof	**0.00**	**0**
Stream Buffer	**0.00**	**0**
Vegetated Swales	**0.00**	**0**
Subtotal	**0.00**	**0**
Subtotal Runoff Volume Reduction Credit	**0 Cu. Ft.**	

(Step 9) Impervious Volume Reduction Credits	Volume (cubic feet)
Rain Barrels/Cisterns	**0 Cu. Ft.**
Soil Quality	**0 Cu. Ft.**
Subtotal Runoff Volume Reduction	**0 Cu. Ft.**
Total Runoff Volume Reduction Credit	**0 Cu. Ft.**

Porous Pavement Credit Worksheet

Please fill out a porous pavement credit worksheet for each project sub-watershed.

For the PROPOSED Development:

Proposed Porous Pavement	Runoff Reduction*	Fill in either Acres or SqFt		Equivalent Acres
		In SqFt.	In Acres	
Area of **Brick without Grout** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Brick without Grout** on more than 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.30			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.60			0.00
Area of **Reinforced Grass Pavement** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Reinforced Grass Pavement** on at least 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Porous Gravel Pavement** on less than 12 inches of base with at least 20% void space over soil	0.38			0.00
Area of **Porous Gravel Pavement** on at least 12 inches of base with at least 20% void space over soil	0.75			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with less than 4 inches of gravel base (washed stone)	0.40			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 4 to 8 inches of gravel base (washed stone)	0.60			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 8 to 12 inches of gravel base (washed stone)	0.80			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 12 or more inches of gravel base (washed stone)	1.00			0.00

*=1-Rv**

Return to Calculator

**Using Site Design Techniques to meet Development Standards for Stormwater Quality (BASMAA 2003)

**NCDENR Stormwater BMP Manual (2007)

Tree Planting Credit Worksheet

Please fill out a tree canopy credit worksheet for each project sub-watershed.

Tree Canopy Credit Criteria	Number of Trees Planted	Credit (acres)
Number of proposed evergreen trees to be planted (credit = number of trees x 0.005)*	0	0.00
Number of proposed deciduous trees to be planted (credit = number of trees x 0.0025)*		0.00
	Square feet Under Canopy	
Square feet under an existing tree canopy, that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is LESS than 12 in diameter.		0.00
Square feet under an existing tree canopy that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is 12 in diameter or GREATER.		0.00
Please describe below how the project will ensure that these trees will be maintained.		

0

Return to Calculator

* credit amount based on credits from Stormwater Quality Design Manual for the Sacramento and South Placer Regions

Downspout Disconnection Credit Worksheet

Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria		
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?	○ Yes	◉ No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?	○ Yes	◉ No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?	○ Yes	◉ No
The Stream Buffer and/or Vegetated Swale credits **will not** be taken in this sub-watershed area?	○ Yes	◉ No

Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts	
Percentage of the proposed	0.00	Acres	of rooftop surface has disconnected downspouts	50

Return to Calculator

Impervious Area Disconnection Credit Worksheet

Please fill out an impervious area disconnection credit worksheet for each project sub-watershed. If you answer yes to all questions, all non-rooftop impervious surface area will be subtracted from your proposed non-rooftop impervious coverage.

Non-Rooftop Disconnection Credit Criteria	Response
Is the maximum contributing impervious flow path length less than 75 feet or, if equal or greater than 75 feet, is a storage device (e.g. French drain, bioretention area, gravel trench) implemented to achieve the required disconnection length?	◉ Yes ○ No
Is the impervious area to any one discharge location less than 5,000 square feet?	◉ Yes ○ No
The Stream Buffer credit **will not** be taken in this sub-watershed area?	◉ Yes ○ No

Percentage of existing	0.00	Acres non-rooftop surface area disconnected	
Percentage of the proposed	0.00	Acres non-rooftop surface area disconnected	70

Return to Calculator

Green Roof Credit Worksheet

Please fill out a greenroof credit worksheet for each project sub-watershed. If you answer yes to all questions, 70% of the greenroof area will be subtracted from your proposed rooftop impervious coverage.

Green Roof Credit Criteria				Response
Is the roof slope less than 15% or does it have a grid to hold the substrate in place until it forms a thick vegetation mat?				◉ Yes ○ No
Has a professional engineer assessed the necessary load reserves and designed a roof structure to meet state and local codes?				◉ Yes ○ No
Is the irrigation needed for plant establishment and/or to sustain the green roof during extended dry periods, is the source from stored, recycled, reclaimed, or reused water?				◉ Yes ○ No
Percentage of existing	0.00	Acres	rooftop surface area in greenroof	
Percentage of the proposed	0.00	Acres	rooftop surface area in greenroof	

Return to Calculator

Stream Buffer Credit Worksheet

Please fill out a stream buffer credit worksheet for each project sub-watershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout and/or Impervious Area Disconnection credits.

Stream Buffer Credit Criteria				Response
Does runoff enter the floodprone width* or within 500 feet (whichever is larger) of a stream channel as sheet flow**?				○ Yes ◉ No
Is the contributing overland slope 5% or less, or if greater than 5%, is a level spreader used?				○ Yes ◉ No
Is the buffer area protected from vehicle or other traffic barriers to reduce compaction?				○ Yes ◉ No
Will the stream buffer be maintained in an ungraded and uncompacted condition and will the vegetation be maintained in a natural condition?				○ Yes ◉ No
Percentage of existing	0.00	Acres	impervious surface area draining into a stream buffer:	
Percentage of the proposed	0.00	Acres	impervious surface area that will drain into a stream buffer:	
Please describe below how the project will ensure that the buffer areas will remain in ungraded and uncompacted condition and that the vegetation will be maintained in a natural condition.				

Return to Calculator

* floodprone width is the width at twice the bankfull depth.
** the maximum contributing length shall be 75 feet for impervious area

Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at www.cabmphandbooks.com)?	○ Yes ◉ No
Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?	○ Yes ◉ No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	0.00	Acres of impervious area draining to a vegetated swale	

Return to Calculator

Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria	Response
Total number of rain barrel(s)/cisterns	
Average capacity of rain barrel(s)/cistern(s) (in gallons)	
Total capacity rain barrel(s)/cistern(s) (in cu ft) [1]	0

[1] accounts for 10% loss

Return to Calculator

Please fill out a soil quality worksheet for each project sub-watershed.

	Response
Will the landscaped area be lined with an impervious membrane?	
Will the soils used for landscaping meet the ideal bulk densities listed in Table 1 below? [1]	○ Yes ◉ No
If you answered yes to the question above, and you know the area-weighted bulk density within the top 12 inches for soils used for landscaping (in g/cm^3)* , fill in the cell to the right and skip to cell G11. If not select from the drop-down menu in G10.	1.3
If you answered yes to the question above, but you do not know the exact bulk density, which of the soil types in the drop down menu to the right best describes the top 12 inches for soils used for landscaping (in g/cm^3).	Sandy loams, loams
What is the average depth of your landscaped soil media meeting the above criteria (inches)?	12
What is the total area of the landscaped areas meeting the above criteria (in acres)?	2.97

Return to Calculator

Table 1

Sands, loamy sands	<1.6
Sandy loams, loams	<1.4
Sandy clay loams, loams, clay loams	<1.4
Silts, silt loams	<1.3
Silt loams, silty clay loams	<1.1
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.1
Clays (>45% clay)	<1.1

Porosity (%) 50.94%

Mineral grains in many soils are mainly quartz and feldspar, so 2.65 a good average for particle density. To determine percent porosity, use the formula: Porosity (%) = (1-Bulk Density/2.65) X 100

[1] USDA NRCS. "Soil Quality Urban Technical Note No.2-Urban Soil Compaction". March 2000. http://soils.usda.gov/sqi/management/files/sq_utn_2.pdf

* To determine how to calculate density see: http://www.globe.gov/tctg/bulkden.pdf?sectionID=94

APPENDIX 3
Bioassessment Monitoring Guidelines

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project is rated Risk Level 3 or LUP Type 3
2. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY
3. Total project-related ground disturbance exceeds 30 acres.

For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.
Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

<u>Bioassessment Exception</u>
If a site qualifies for bioassessment, but construction commences out of an index period for the site location, the discharger shall:

1. Receive Regional Water Board approval for the sampling exception
2. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
3. Send a copy of the check to the Regional Water Board office for the site's region
4. Invest **7,500.00 X The number of samples required** into the SWAMP program as compensation (upon Regional Water Board approval).
5. Conduct bioassessment monitoring, as described in Appendix 4
6. Include the collection and reporting of specified instream biological data and physical habitat
7. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP)

<u>Site Locations and Frequency</u>
Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The "after" sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. "Before" and "after" samples shall be collected both upstream and downstream of the project's

discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)
Macroinvertebrate sampling shall be conducted during the time of year (i.e., the "index period") most appropriate for bioassessment sampling, depending on ecoregion. This map is posted on the State Water Board's Website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Field Methods for Macroinvertebrate Collections
In collecting macroinvertebrate samples, the discharger shall use the "Reachwide Benthos (Multi-habitat) Procedure" specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007).[1]

Physical - Habitat Assessment Methods
The discharger shall conduct, concurrently with all required macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program's *Stream Habitat Characterization Form — Full Version*.

Laboratory Methods
Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[2] and using a fixed-count of 600 organisms per sample.

Quality Assurance
The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where

[1] This document is available on the Internet at: ~~http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf~~. http://swamp.mpsl.mlml.calstate.edu/wp-content/uploads/2009/04/swamp_sop_bioassessment_collection_020107.pdf.

[2] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: ~~http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf~~ http://www.safit.org/Docs/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

errors are identified). External QA checks shall be performed on one of the discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.[3]

The physical/habitat data shall be reported using the standard format titled *SWAMP Stream Habitat Characterization Form — Full Version*.[4]

[3] Any version of Excel, 2000 or later, may be used.
[4] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.[5]

[5] Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/
More information on AIS More information on AIS
http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/

Appendix 4 Sediment TMDLs

Implemented Sediment TMDLs in California. Construction was listed as a source in all fo these TMDLs in relation to road construction. Although construction was mentioned as a source, it was not given a specific allocation amount. The closest allocation amount would be for the road activity management WLA. **Implementation Phase** – Adoption process by the Regional Board, the State Water Resources Control Board, the Office of Administrative Law, and the US Environmental Protection Agency completed and TMDL being implemented.

A. Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.albionfinaltmdl	R	Albion River	Sedimentation	Road Construction	2001	43 acres	See A (table 6)

B Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelR-middle.mainSed.temp	R	Middle Main Eel River and Tributaries (from Dos Rios to the South Fork)	Sedimentation	Road Construction	2005-2006	521 mi^2	100

C Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelRsouth.sed.temp	R	South Fork Eel River	Sedimentation	Road Construction	12 1999	See chart	473

D Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.bigfinaltmdl	R	Big River	Sedimentation	Road Construction	12 2001	181 mi^2 watershed drainage	TMDL = loading capacity = nonpoint sources + background =

							393 t mi2 yr

E Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-lower.Sed.temp-121807-signed	R	Lower Eel River	Sedimentation	Road Construction	12 2007	300 square-mile watershed	898

F Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-middle.Sed.temp-	R	Middle Fork Eel River	Sedimentation	Road Construction	12 2003	753 mi^2 (approx. 482,000 acres)	82

G Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelRnorth-Sed.temp.final-121807-signed	R	North Fork Eel River	Sedimentation	Road Construction	12 30 2002	289 (180,020 acres)	20

H Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelR-upper.mainSed.temp-	R	Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sedimentation	Road Construction	12 29 2004	688 (approx. 440,384 acres)	14

I Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.gualalafinaltmdl	R	Gualala River	Sedimentation	Road Construction	Not sure	300 (191,145 acres)	7

J Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.Mad-sed.turbidity	R	Mad River	Sedimentation	Road Construction	12 21 2007	480	174

K Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.mattole.sediment	R	Mattole River	Sedimentation	Road Construction	12 30 2003	296	27 or 520+27 = 547

L Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.navarro.sed.temp	R	Navarro River	Sedimentation	Road Construction	Not sure	315 (201,600 acres).	50

M Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.noyo.sediment	R	Noyo River	Sedimentation	Road Construction	12 16 1999	113 (72,323 acres)	68 (three areas measured) Table 16 in the TMDL

N Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.RedwoodCk.sed	Cr	Redwood Creek	Sedimentation	Road Construction	12 30 1998	278	1900 Total allocation

O Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA – Roads** tons mi^2 yr
1 R1.epa.tenmile.sed	R	Ten Mile River	Sedimentation	Road Construction	2000	120	9

P Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA management** tons mi^2 yr
1 R1.epa.trinity.sed	R	Trinity River	Sedimentation	Road Construction	12 20 2001	2000 of 3000 covered in this TMDL	See rows below
1	Cr	Horse Linto Creek	Sedimentation	Road Construction	12 20 2001	64	528
1	Cr	Mill creek and Tish Tang	Sedimentation	Road Construction	12 20 2001	39	210
1	Cr	Willow Creek	Sedimentation	Road Construction	12 20 2001	43	94
1	Cr	Campbell Creek and Supply Creek	Sedimentation	Road Construction	12 20 2001	11	1961
1	Cr	Lower Mainstem and Coon Creek	Sedimentation	Road Construction	12 20 2001	32	63
1	R	Reference Subwatershed [1]	Sedimentation	Road Construction	12 20 2001	434	24
1	Cr	Canyon Creek	Sedimentation	Road	12 20 2001	64	326

				Construction			
1	R	Upper Tributaries[2]	Sedimentation	Road Construction	12 20 2001	72	67
1	R	Middle Tributaries[3]	Sedimentation	Road Construction	12 20 2001	54	53
1	R	Lower Tributaries[4]	Sedimentation	Road Construction	12 20 2001	96	55
1	Cr	Weaver and Rush Creeks	Sedimentation	Road Construction	12 20 2001	72	169
1	Cr	Deadwood Creek Hoadley Gulch Poker Bar	Sedimentation	Road Construction	12 20 2001	47	68
1	L	Lewiston Lake	Sedimentation	Road Construction	12 20 2001	25	49
1	Cr	Grassvalley Creek	Sedimentation	Road Construction	12 20 2001	37	44
1	Cr	Indian Creek	Sedimentation	Road Construction	12 20 2001	34	81
1	Cr	Reading and Browns Creek	Sedimentation	Road Construction	12 20 2001	104	66
1	Cr	Reference Subwatersheds[5]	Sedimentation	Road Construction	12 20 2001	235	281
1	L, Cr	Westside tributaries[6]	Sedimentation	Road Construction	12 20 2001	93	105
1	R, Cr, G	Upper trinity[7]	Sedimentation	Road Construction	12 20 2001	161	690
1	R, Cr, G	East Fork Tributaries[8]	Sedimentation	Road Construction	12 20 2001	115	65
1	R, L	Eastside Tributaries[9]	Sedimentation	Road Construction	12 20 2001	89	60

1 New River, Big French, Manzanita, North Fork, East Fork, North Fork
2 Dutch, Soldier, Oregon gulch, Conner Creek
3 Big Bar, Prairie Creek, Little French Creek
4 Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quimby, Hawkins, Sharber
5 Stuarts Fork, Swift Creek, Coffee Creek
6 Stuart Arm, Stoney Creek, Mule Creek, East Fork, Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek,
7 Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstream, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch, Scorpion Creek
8 East Fork Trinity, Cedar Creek, Squirrel Gulch

9 East Side Tributaries, Trinity Lake

Q Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.trinity.so.sed	R, Cr	South Fork Trinity River and Hayfork Creek	Sedimentation	Road Construction	12 1998	Not given, 19 miles long	33 (road total)

R Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.vanduzen.sed	R, Cr	Van Duzen River and Yager Creek	Sedimentation	Various	12 16 1999	429	1353 total allocation
1		Upper Basin	Sedimentation	Road Construction			7
1		Middle Basin	Sedimentation	Road Construction			22
1		Lower Basin	Sedimentation	Road Construction			20

S Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
6 R6.blackwood.sed	Cr	Blackwood Creek (Placer County)	Bedded Sediment	Various	9 2007	11	17272 total

T Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
6 R6.SquawCk.sed	R	Squaw Creek (Placer County)	Sedimentation /controllable sources	Various – basin plan amendment	4 13 2006	8.2	10,900

Adopted TMDLs for Construction Sediment Sources

Region	Type	Name	Pollutant Stressor	Potential Sources	**TMDL Completion Date**	**Watershed Area** mi^2	Waste load Allocation tons mi^2 yr
8	R	Newport Bay San Diego Creek Watershed	Sedimentation	Construction Land Development	1999	2.24 (1432 acres)	125,000 tons per Year (no more than 13,000 tons per year from construction sites)

Appendix 4 Non Sediment TMDLs

Region 1 Lost River-DIN and CBOD

Region 1 Source: Cal Trans Construction TMDL Completion Date: 12 30 2008 TMDL Type: River, Lake Watershed Area= 2996 mi^2	**Pollutant Stressors/WLA**	
	Dissolved inorganic nitrogen (DIN) (metric tons/yr)	**Carbonaceous biochemical oxygen demand (CBOD) (metric tons/yr)**
Lost River from the Oregon border to Tule Lake	.1	.2
Tule Lake Refuge	.1	.2
Lower Klamath Refuge	.1	.2

Region 2 San Francisco Bay-Mercury

Region 2 Source:Non-Urban Stormwater Runoff TMDL Type: Bay	**Name**	**Pollutant Stressor/WLA**	**TMDL Completion Date**
	San Francisco Bay	Mercury 25 kg/year	08 09 2006

Region 4 Ballona Creek-Metals and Selenium

Region 4 Source: NPDES General Construction TMDL Completion Date: 12 22 2005 TMDL Type: Creek	**Pollutant Stressors/WLA**							
	Copper (Cu)		**Lead (Pb)**		**Selenium (Se)**		**Zinc (Zn)**	
	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre
Ballona Creek	4.94E-07 x Daily storm volume (L)	2.20E-10 x Daily storm volume (L)	1.62E-06 x Daily storm volume (L)	7.20E-10 x Daily storm volume (L)	1.37E-07 x Daily storm volume (L)	6.10E-11 x Daily storm volume (L)	3.27E-06 x Daily storm volume (L)	1.45E-09 x Daily storm volume (L)

General Construction Storm Water Permits:
Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

- Dry-weather Implementation Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:
  (1) infeasible to eliminate
  (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
  (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.
  Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.
- Wet-weather Implementation Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Region 4 Calleaguas Creek-OC Pesticides, PCBs, and Siltation

Interim Requirements

Region 4 Calleaguas Creek Source: Minor NPDES point sources/WDRs TMDL Completion Date: 3 14 2006 TMDL Type:Creek	**Pollutant Stressor**	**WLA Daily Max (µg/L)**	**WLA Monthly Ave (µg/L)**
	Chlordane	1.2	0.59
	4,4-DDD	1.7	0.84
	4,4-DDE	1.2	0.59
	4,4-DDT	1.2	0.59
	Dieldrin	0.28	0.14
	PCB's	0.34	0.17
	Toxaphene	0.33	0.16

Final WLA (ng/g)							
Region 4 Calleaguas Creek Source: Stormwater Permittees TMDL Completion Date: 3 14 2006 TMDL Type:Creek	Chlordane	4,4-DDD	4,4-DDE	4,4-DDT	Dieldrin	PCB's	Toxaphene
Mugu Lagoon*	3.3	2.0	2.2	0.3	4.3	180.0	360.0
Callegaus Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Revolon Slough (SW)*	0.9	2.0	1.4	0.3	0.1	130.0	1.0
Arroyo Las posas(SW)*	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Arroyo Simi	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Conejo Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Interim Requirements (ng/g)							
Mugu Lagoon*	25.0	69.0	300.0	39.0	19.0	180.	22900.0
Callegaus Creek	17.0	66.0	470.0	110.0	3.0	3800.0	260.0
Revolon Slough (SW)*	48.0	400.0	1600.0	690.0	5.7	7600.0	790.0
Arroyo Las posas(SW)*	3.3	290.0	950.0	670.0	1.1	25700.0	230.0
Arroyo Simi	3.3	14.0	170.0	25.0	1.1	25700.0	230.0
Conejo Creek	3.4	5.3	20.0	2.0	3.0	3800.0	260.0

*(SW)=Subwatershed

*Mugu Lagoon includes Duck pond/Agricultural Drain/Mugu/Oxnard Drain #2

Compliance with sediment based WLAs is measured as an instream annual average at the base of each subwatershed where the discharges are located.

Region 4 Calleguas Creek-Salts

Final Dry Weather Pollutant WLA (mg/L)					
Region 4 Calleaguas Creek Source Permitted Stormwater Dischargers TMDL Completion Date: 12 2 2008 TMDL Type:Creek	**Critical Condition Flow Rate (mgd)**	**Chloride (lb/day)**	**TDS (lb/day)**	**Sulfate (lb/day)**	**Boron (lb/day)**
Simi	1.39	1738.0	9849.0	2897.0	12.0
Las Posas	0.13	157.0	887.0	261.0	N/A
Conejo	1.26	1576.0	8931.0	2627.0	N/A

Camarillo	0.06	72.0	406.0	119.0	N/A
Pleasant Valley (Calleguas)	0.12	150.0	850.0	250.0	N/A
Pleasant Valley (Revolon)	0.25	314.0	1778.0	523.0	2.0

Dry Weather Interim Pollutant WLA (mg/L)				
	Chloride (mg/L)	**TDS (mg/L)**	**Sulfate (mg/L)**	**Boron (mg/L)**
Simi	230.0	1720.0	1289.0	1.3
Las Posas	230.0	1720.0	1289.0	1.3
Conejo	230.0	1720.0	1289.0	1.3
Camarillo	230.0	1720.0	1289.0	1.3
Pleasant Valley (Calleguas)	230.0	1720.0	1289.0	1.3
Pleasant Valley (Revolon)	230.0	1720.0	1289.0	1.3

- General Construction permittees are assigned a dry weather wasteload allocation equal to the average dry weather critical condition flow rate multiplied by the numeric target for each constituent. Waste load allocations apply in the receiving water at the base of each subwatershed. Dry weather allocations apply when instream flow rates are below the 86th percentile flow and there has been no measurable precipitation in the previous 24 hours.
- Because wet weather flows transport a large mass of salts at low concentrations, these dischargers meet water quality objectives during wet weather.
- Interim limits are assigned for dry weather discharges from areas covered by NPDES stormwater permits to allow time to implement appropriate actions. The interim limits are assigned as concentration based receiving water limits set to the 95th percentile of the discharger data as a monthly average limit except for chloride. The 95th percentile for chloride was 267 mg/L which is higher than the recommended criteria set forth in the Basin Plan for protection of sensitive beneficial uses including aquatic life. Therefore, the interim limit for chloride for Permitted Stormwater Dischargers is set equal to 230 mg/L to ensure protection of sensitive beneficial uses in the Calleguas Creek watershed.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Region 4 San Gabriel River and Tributaries	**Pollutant Stressor**	**Wet weather Allocations**	**Dry Weather Allocations**	**% of Watershed**
San Gabriel Reach 2 Source: Construction Stormwater Dischargers TMDL Completion Date: 3 2007 TMDL Type: Creek	Lead (Pb) Mass based	0.7% * 166 µg/l * Daily Storm Vol	N/A	0.7%
San Gabriel Reach 2	Lead (Pb) Mass based	0.8 kg/d	N/A	0.7%
Coyote Creek	Copper (Cu)	0.285 kg/d	0	5.0%

Coyote Creek	Lead (Pb)	1.70 kg/d	N/A	5.0%
Coyote Creek	Zinc (Zn)	2.4 kg/d	N/A	5.0%
San Jose Creek Reach 1 and 2	Selenium	5 µg/L	5 µg/L	5.0%

Wet-weather allocations for lead in San Gabriel River Reach 2. Concentration-based allocations apply to non-stormwater NPDES discharges. Stormwater allocations are expressed as a percent of load duration curve. Mass-based values presented in table are based on a flow of 260 cfs (daily storm volume = 6.4 x10^{8} liters).

There are 1555 acres of water in the entire watershed, 37.4 acres of water in the Reach 1 subwatershed (2.4%), and 269 acres in the Coyote Creek subwatershed (17%).

General Construction Storm Water Permits

Waste load allocations for the general construction storm water permits may be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board. An estimate of direct atmospheric deposition is developed based on the percent area of surface water in the watershed. Approximately 0.4% of the watershed area draining to San Gabriel River Reach 2 is comprised of water and approximately 0.2% of the watershed area draining to Coyote Creek is comprised of water.

Region 4 The Harbor Beaches of Ventura County-Bacteria

The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters. Bacteriological objectives are set forth in Chapter 3 of the Basin Plan. The objectives are based on four bacteria indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives that serve as the numeric targets for this TMDL are:

The General NPDES Construction permit is seen as a minor contributor and is given no allocation

General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR permittees in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, individual NPDES permit, the Statewide Industrial

Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR will also be subject to a WLA of zero (0) days of allowable exceedances.

Region 4 Resolution No. 03-009 Los Angeles River and Tributaries-Nutrients

Minor Point Sources

Waste loads are allocated to minor point sources enrolled under NPDES or WDR permits including but not limited to Tapia WRP, Whittier Narrows WRP, Los Angeles Zoo WRP, industrial and construction stormwater, and municipal storm water and urban runoff from municipal separate storm sewer systems (MS4s)

Region 4 Minor Point Sources for NPDES/WDR Permits TMDL Completion Date: 7 10 2003 TMDL Type: River	Pollutant Stressor/WLA				
	Total Ammonia (NH_3)		**Nitrate-nitrogen (NO_3-N)**	**Nitrite-nitrogen (NO_2-N)**	**NO_3-N + NO_3-N**
	1 Hr Ave mg/l	30 Day Ave mg/l	30 Day Ave mg/l		30 Day Ave mg/l
LA River Above Los Angeles-Glendale WRP (LAG)	4.7	1.6	8.0	1.0	8.0
LA River Below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries	10.1	2.3	8.0	1.0	8.0

Malibu Creek Attachment A to Resolution No. 2004-019R-Bacteria

12 13 2004 The WLAs for permittees under the NPDES General Stormwater Construction Permit are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean.

Region 4 Marina del Rey Harbor, Mothers' Beach and Back Basins Attachment A to Resolution No. 2003-012-Bacteria

8 7 2003 As discussed in "Source Analysis", discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the MdR Watershed will also be subject to a WLA of zero days of allowable exceedances.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Dry Weather Selenium WLA
A zero WLA is assigned to the industrial and construction stormwater permits during dry weather. Non-storm water discharges are already prohibited or restricted by existing general permits.

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	**Total Recoverable Metals (kg/day)**		
	Copper (Cu) Kg/day	**Lead (Pb) Kg/day**	**Zinc (Zn) Kg/day**
San Gabriel River Reach 2 and upstream reaches/tributaries	**XXXX**	Daily storm volume x 1.24 µg/L	**XXXX**
Coyote Creek and Tributaries	Daily storm volume x 0.7 µg/L	Daily storm volume x 4.3 µg/L	Daily storm volume x 6.2 µg/L

Each enrollee under the general construction stormwater permit receives a WLA on a per acre basis

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	**Total Recoverable Metals (kg/day/acre)**		
	Copper (Cu) Kg/acre/day	**Lead (Pb) Kg/acre/day**	**Zinc (Zn) Kg/acre/day**
San Gabriel River Reach 2 and upstream reaches/tributaries	**XXXX**	Daily storm volume x 0.56 µg/L	**XXXX**
Coyote Creek and Tributaries	Daily storm volume x 0.12 µg/L	Daily storm volume x 0.70 µg/L	Daily storm volume x 1.01 µg/L

For the general industrial and construction storm water permits, the daily storm volume is measured at USGS station 11085000 for discharges to Reach 2 and above and at LACDPW flow gauge station F354-R for discharges to Coyote Creek.

General construction storm water permits

WLAs will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

Dry-weather implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (NPDES Permit No. CAS000002), or any successor permit, are exempt from the dry-weather WLA equal to zero as long as they comply with the provisions of sections C.3.and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be (1) infeasible to eliminate (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order. Unauthorized non-storm water flows are already prohibited by Permit No. CAS000002.

Upon permit issuance, renewal, or re-opener

Non-storm water flows not authorized by Order No. 99-08 DWQ, or any successor order, shall achieve dry-weather WLAs. WLAs shall be expressed as NPDES water quality-based effluent limitations specified in accordance with federal regulations and state policy on water quality control. Effluent limitations may be expressed as permit conditions, such as the installation, maintenance, and monitoring of Regional Board-approved BMPs.

Six years from the effective date of the TMDL

The construction industry will submit the results of wet-weather BMP effectiveness studies to the Los Angeles Regional Board for consideration. In the event that no effectiveness studies are conducted and no BMPs are approved, permittees shall be subject to site-specific BMPs and monitoring to demonstrate BMP effectiveness.

Seven years from the effective date of the TMDL

The Los Angeles Regional Board will consider results of the wet weather BMP effectiveness studies and consider approval of BMPs.

Eight years from the effective date of the TMDL

All general construction storm water permittees shall implement Regional Board-approved BMPs.

Region 8 RESOLUTION NO. R8-2007- 0024

Total Maximum Daily Loads (TMDLs) for San Diego Creek,
Upper and Lower Newport Bay, Orange County, California

Region 8 NPDES Construction Permit	**Total DDT**		**Chlordane** Organochlorine Compounds		**Total PCBs**		**Toxaphene**	
	g/day	g/yr	g/day	g/yr	g/day	g/yr	g/day	g/yr

San Diego Creek	.27	99.8	**.18***	**64.3***	**.09***	**31.5***	.004	1.5
Upper Newport Bay	.11	40.3	.06	23.4	.06	23.2	**X**	**X**
Lower Newport Bay	.04	14.9	.02	8.6	.17	60.7	**X**	**X**

*Red= Informational WLA only, not for enforcement purposes

Organochlorine Compounds TMDLs Implementation Tasks and Schedule

Regional Board staff shall develop a SWPPP Improvement Program that identifies the Regional Board's expectations with respect to the content of SWPPPs, including documentation regarding the selection and implementation of BMPs, and a sampling and analysis plan. The Improvement Program shall include specific guidance regarding the development and implementation of monitoring plans, including the constituents to be monitored, sampling frequency and analytical protocols. The SWPPP Improvement Program shall be completed by (*the date of OAL approval of this BPA*). ***No later than two months*** from completion of the Improvement Program, Board staff shall assure that the requirements of the Program are communicated to interested parties, including dischargers with existing authorizations under the General Construction Permit. Existing, authorized dischargers shall revise their project SWPPPs as needed to address the Program requirements as soon as possible but ***no later than (three months of completion of the SWPPP Improvement Program)***. Applicable SWPPPs that do not adequately address the Program requirements shall be considered inadequate and enforcement by the Regional Board shall proceed accordingly. The Caltrans and Orange County MS4 permits shall be revised as needed to assure that the permittees communicate the Regional Board's SWPPP expectations, based on the SWPPP Improvement Program, with the Standard Conditions of Approval.

APPENDIX 5:
Glossary

Active Areas of Construction
All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas. All previously active areas are still considered active areas until final stabilization is complete. [The construction activity Phases used in this General Permit are the Preliminary Phase, Grading and Land Development Phase, Streets and Utilities Phase, and the Vertical Construction Phase.]

Active Treatment System (ATS)
A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Toxicity Test
A chemical stimulus severe enough to rapidly induce a negative effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute.

Air Deposition
Airborne particulates from construction activities.

Approved Signatory
A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or U.S. EPA. The Approved Signatory must be one of the following:

1. For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the

construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;

5. For a public university: an authorized university official;

6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or

7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.

Beneficial Uses
As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)
As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)
As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Best Management Practices (BMPs)
BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures,

and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody (COC)
Form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Coagulation
The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development
Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Daily Average Discharge
The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration) the daily discharge is calculated as the average measurement of the pollutant throughout the day (40 CFR 122.2). In the case of pH, the pH must first be converted from a log scale.

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge
A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharger
The Legally Responsible Person (see definition) or entity subject to this General Permit.

Dose Rate (for ATS)
In exposure assessment, dose (e.g. of a chemical) per time unit (e.g. mg/day), sometimes also called dosage.

Drainage Area
The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent
Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation
Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Erosion
The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs
Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Field Measurements
Testing procedures performed in the field with portable field-testing kits or meters.

Final Stabilization
All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

First Order Stream
Stream with no tributaries.

Flocculants
Substances that interact with suspended particles and bind them together to form flocs.

Good Housekeeping BMPs
BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Grading Phase (part of the Grading and Land Development Phase)
Includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Hydromodification
Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation.

Identified Organisms
Organisms within a sub-sample that is specifically identified and counted.

Inactive Areas of Construction
Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Index Period
The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary over the course of a year,and sampling during the index period ensures that samples are collected during a time frame when communities are stable so that year-to-year consistency is obtained. The index period approach provides a cost-effective alternative to year-round sampling. Furthermore, sampling within the appropriate index period will yield results that are comparable to the assessment thresholds or criteria for a given region, which are established for the same index period. Because index periods differ for different parts of the state, it is essential to know the index period for your area.

K Factor
The soil erodibility factor used in the Revised Universal Soil Loss Equation (RUSLE). It represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil.

Legally Responsible Person
The Legally Responsible Person (LRP) will typically be the project proponent. The categories of persons or entities that are eligible to serve as the LRP are set forth below. For any construction or land disturbance project where multiple persons or entities are eligible to serve as the LRP, those persons or entities

shall select a single LRP. In exceptional circumstances, a person or entity that qualifies as the LRP may provide written authorization to another person or entity to serve as the LRP. In such a circumstance, the person or entity that provides the authorization retains all responsibility for compliance with the General Permit. Except as provided in category 2(d), a contractor who does not satisfy the requirements of any of the categories below is not qualified to be an LRP.

The following persons or entities may serve as an LRP:

1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.

2. In addition to the above, the following persons or entities may also serve as an LRP:

    a. For linear underground/overhead projects, the utility company, municipality, or other public or private company or agency that owns or operates the LUP;

    b. For land controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);

    c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or

    d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.

Likely Precipitation Event
Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The discharger shall obtain likely precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

Maximum Allowable Threshold Concentration (MATC)
The allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity

testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Natural Channel Evolution
The physical trend in channel adjustments following a disturbance that causes the river to have more energy and degrade or aggrade more sediment. Channels have been observed to pass through 5 to 9 evolution types. Once they pass though the suite of evolution stages, they will rest in a new state of equilibrium.

Non-Storm Water Discharges
Discharges are discharges that do not originate from precipitation events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants
Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen though observation (ex: chlorine). Such pollutants being discharged are not authorized.

Numeric Action Level (NAL)
Level is used as a warning to evaluate if best management practices are effective and take necessary corrective actions. Not an effluent limit.

Original Sample Material
The material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

pH
Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Post-Construction BMPs
Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Preliminary Phase (Pre-Construction Phase - Part of the Grading and Land Development Phase)
Construction stage including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading.

Project

Qualified SWPPP Developer
Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner
Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Qualifying Rain Event
Any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events.

R Factor
Erosivity factor used in the Revised Universal Soil Loss Equation (RUSLE). The R factor represents the erosivity of the climate at a particular location. An average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity.

Rain Event Action Plan (REAP)
Written document, specific for each rain event, that when implemented is designed to protect all exposed portions of the site within 48 hours of any likely precipitation event.

Remaining Sub sampled Material
The material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but the sample needs to be checked and verified using a complete Quality Assurance (QA) plan)

Routine Maintenance
Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs
Measures used to divert runon from offsite and runoff within the site.

Run-on
Discharges that originate offsite and flow onto the property of a separate project site.

Revised Universal Soil Loss Equation (RUSLE)
Empirical model that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Sampling and Analysis Plan
Document that describes how the samples will be collected, under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment
Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation
Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs
Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Settleable Solids (SS)
Solid material that can be settled within a water column during a specified time frame. It is typically tested by placing a water sample into an Imhoff settling cone and then allowing the solids to settle by gravity for a given length of time. Results are reported either as a volume (mL/L) or a mass (mg/L) concentration.

Sheet Flow
Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Site

Soil Amendment
Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

Streets and Utilities Phase
Construction stage including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvements.

Structural Controls
Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution

Suspended Sediment Concentration (SSC)
The measure of the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)
The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity
The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Turbidity
The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Vertical Construction Phase
The Build out of structures from foundations to roofing, including rough landscaping.

Waters of the United States
Generally refers to surface waters, as defined by the federal Environmental Protection Agency in 40 C.F.R. § 122.2.[1]

Water Quality Objectives (WQO)
Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

[1] The application of the definition of "waters of the United States" may be difficult to determine; there are currently several judicial decisions that create some confusion. If a landowner is unsure whether the discharge must be covered by this General Permit, the landowner may wish to seek legal advice.

APPENDIX 6:
Acronym List

ASBS	Areas of Special Biological Significance
ASTM	American Society of Testing and Materials; Standard Test Method for Particle-Size Analysis of Soils
ATS	Active Treatment System
BASMAA	Bay Area Storm water Management Agencies Association
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
CAFO	Confined Animal Feeding Operation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CIWQS	California Integrated Water Quality System
CKD	Cement Kiln Dust
COC	Chain of Custody
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Storm Water Quality
CSMP	Construction Site Monitoring Program
CTB	Cement Treated Base
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
CWP	Center for Watershed Protection
DADMAC	Diallyldimethyl-ammonium chloride
DDNR	Delaware Department of Natural Resources
DFG	Department of Fish and Game
DHS	Department of Health Services
DWQ	Division of Water Quality
EC	Electrical Conductivity
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESC	Erosion and Sediment Control
HSPF	Hydrologic Simulation Program Fortran
JTU	Jackson Turbidity Units
LID	Low Impact Development
LOEC	Lowest Observed Effect Concentration
LRP	Legally Responsible Person
LUP	Linear Underground/Overhead Projects

MATC	Maximum Allowable Threshold Concentration
MDL	Method Detection Limits
MRR	Monitoring and Reporting Requirements
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NAL	Numeric Action Level
NEL	Numeric Effluent Limitation
NICET	National Institute for Certification in Engineering Technologies
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PAC	Polyaluminum chloride
PAM	Polyacrylamide
PASS	Polyaluminum chloride Silica/sulfate
POC	Pollutants of Concern
PoP	Probability of Precipitation
POTW	Publicly Owned Treatment Works
PRDs	Permit Registration Documents
PWS	Planning Watershed
QAMP	Quality Assurance Management Plan
QA/QC	Quality Assurance/Quality Control
REAP	Rain Event Action Plan
Regional Board	Regional Water Quality Control Board
ROWD	Report of Waste Discharge
RUSLE	Revised Universal Soil Loss Equation
RW	Receiving Water
SMARTS	Storm water Multi Application Reporting and Tracking System
SS	Settleable Solids
SSC	Suspended Sediment Concentration
SUSMP	Standard Urban Storm Water Mitigation Plan
SW	Storm Water
SWARM	Storm Water Annual Report Module
SWAMP	Surface Water Ambient Monitoring Program
SWMM	Storm Water Management Model
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TC	Treatment Control
TDS	Total Dissolved Solids

TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACOE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirements
WLA	Waste Load Allocation
WET	Whole Effluent Toxicity
WRCC	Western Regional Climate Center
WQBEL	Water Quality Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard

APPENDIX 7:
State and Regional Water Resources Control Board Contacts

NORTH COAST REGION (1)
5550 Skylane Blvd, Ste. A
Santa Rose, CA 95403
(707) 576-2220 FAX: (707)523-0135

SAN FRANCISCO BAY REGION (2)
1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2640

CENTRAL COAST REGION (3)
895 Aerovista Place, Ste 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397

LOS ANGELES REGION (4)
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640

CENTRAL VALLEY REGION (5S)
11020 Sun Center Dr., #200
Rancho Cordova, CA 95670-6114
(916) 464-3291 FAX: (916) 464-4645

FRESNO BRANCH OFFICE (5F)
1685 E St.
Fresno, CA 93706
(559) 445-5116 FAX: (559) 445-5910

REDDING BRANCH OFFICE (5R)
415 Knollcrest Drive, Ste. 100
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857

LAHONTAN REGION (6 SLT)
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271

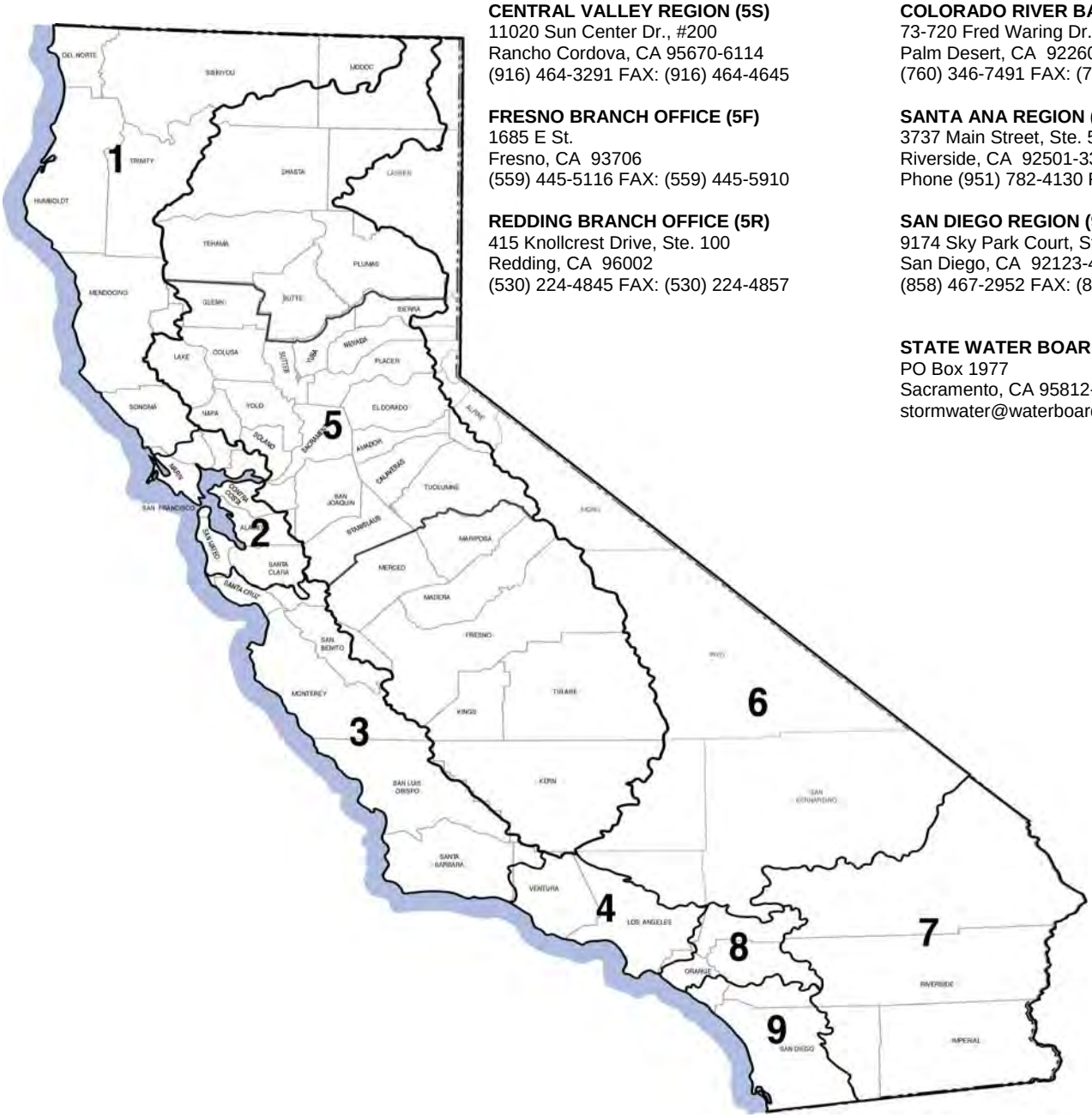
VICTORVILLE OFFICE (6V)
14440 Civic Drive, Ste. 200
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308

COLORADO RIVER BASIN REGION (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820

SANTA ANA REGION (8)
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
Phone (951) 782-4130 FAX: (951) 781-6288

SAN DIEGO REGION (9)
9174 Sky Park Court, Ste. 100
San Diego, CA 92123-4340
(858) 467-2952 FAX: (858) 571-6972

STATE WATER BOARD
PO Box 1977
Sacramento, CA 95812-1977
stormwater@waterboards.ca.gov



Appendix B.
Permit Registration Documents (PRDs)

Linda S. Adams
Secretary for Environmental Protection

State Water Resources Control Board

Division of Water Quality
1001 I Street Sacramento, California 95814 (866) 563 3107
Mailing Address: P.O. Box 1977 Sacramento, California 95812-1977
FAX (916) 341-5543 Internet Address: http://www.waterboards.ca.gov
Email Address: stormwater@waterboards.ca.gov

Edmund G. Brown Jr.
Governor

Approved Date: March 24, 2011

Michael Zucker
Union Pacific Railroad
1400 Douglas Street MS 0910
Omaha NE 68179

RECEIPT OF YOUR NOTICE OF INTENT (NOI)

The State Water Resources Control Board (State Water Board) has received and processed your NOI to comply with the terms of the General Permit to Discharger Storm Water Associated with Construction Activity. Accordingly, you are required to comply with the permit requirements.

The Waste Discharger Identification (WDID) number is: **6B36C360656** Please use this number in any future communication regarding this permit.

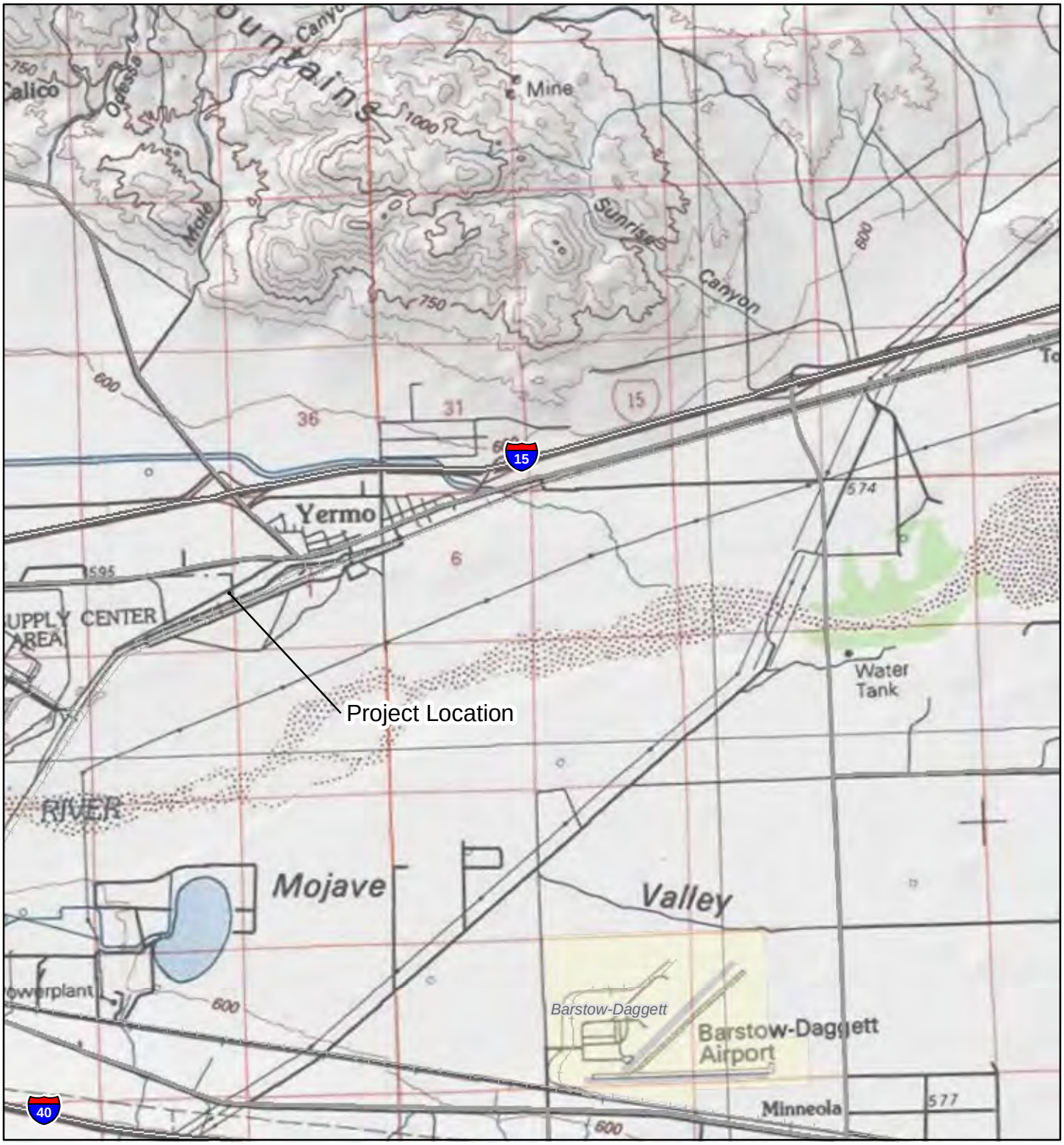
	SITE DESCRIPTION
OWNER:	Union Pacific Railroad
DEVELOPER:	To Be Determined
SITE INFORMATION:	Yermo California Classification Yard Marine Road Yermo
TOTAL DISTURBED ACRES:	21.32
START DATE:	April 01, 2011
COMPLETION DATE:	June 30, 2011
COUNTY:	San Bernardino

When the Owner changes , a new NOI, site map, and fee must be submitted by the new Owner. As the previous owner, you are required to submit a Notice of Termination (NOT) to the local Regional Water Board stating you no longer own or operate the Site and coverage under the General Permit is not required. Unless notified, you will continue and are responsible to pay the annual fee invoiced each January.

If you have any questions regarding permit requirements, please contact your Regional Water Board at 760-241-6583 . Please visit the storm water web site at http://www.waterboards.ca.gov/water_issues/programs/stormwater/ to obtain an NOT and other storm water related information and forms.

Sincerely,

Storm Water Section
Division of Water Quality





Drilled Dried Grain Facility Design
Union Pacific Railroad
Yermo, CA

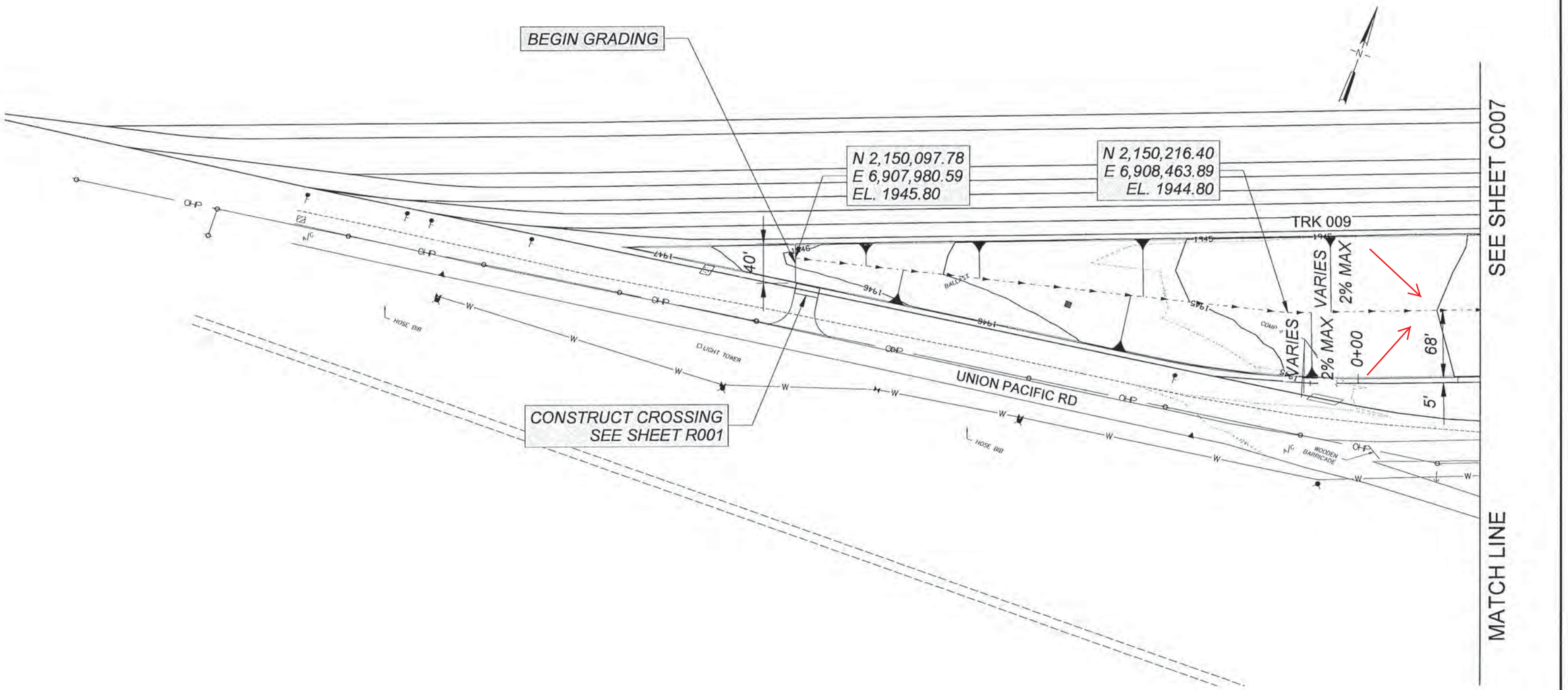
1 inch = 5,000 feet

0 2,500 5,000 10,000 Feet

N

VICINITY MAP
Figure 1

March 2011



NOTE:
1. ELEVATIONS ARE TO TOP OF FINISHED SURFACING.

SCALE
0 50 100 150

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

UNION PACIFIC

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	C006 of C009

UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY GRADING & DRAINAGE PLAN

Yermo_C006.dgn

UPRR.tbl
PLOTTING.TBL
Yermo_C006.dgn
03.07.2011 3:09:46 PM

RAIN GAGE

INSTALL SILT FENCE
384 LF
SEE SHEET PSE001

LOADING AREA, PLANS AND DETAILS PROVIDED BY BOSS AUTOMATION

150,636.22
909,615.77

N 2,150,755.80
E 6,909,873.27
EL. 1941.70

N 2,150,585.24
E 6,909,430.17
EL. 1942.65

N 2,150,484.61
E 6,909,162.94
EL. 1943.30

SEE SHEET C006

SEE SHEET C008

TRK 009

TRK 020

TRK 105

BALLAST

5+00

10+00

15+00

155'

VARIES

2% MAX

VARIES

2% MAX

DDG UNLOADING TRACK

AIR

1/2" AIR-PRO PIPE

DE-RAIL

DE-RAIL

N 2,150,500.46
E 6,909,365.83
EL. 1942.87

INSTALL SILT FENCE
100 LF
SEE SHEET PSE001

GRAVEL

WOODEN BARRICADE

OHP

W

N 2,150,455.22
E 6,909,247.78
EL. 1943.12

GRAVEL

GRAVEL

N 2,150,412.73
E 6,909,462.28

A/C

PROPANE TANK

A/C UNIT

HOSE BIB

INSTALL SILT FENCE
100 LF
SEE SHEET PSE001

N 2,150,696.46
E 6,909,896.11
EL. 1941.57

SAMPLING / MONITORING LOCATION

MATCH LINE

MATCH LINE

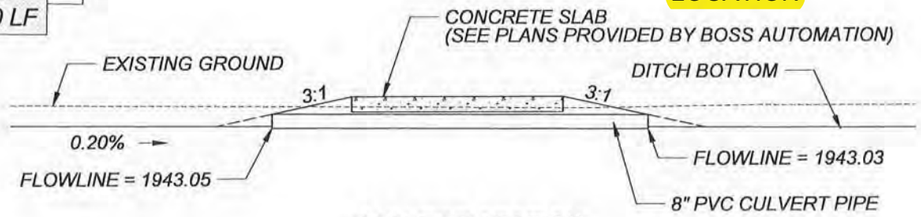
UNION PACIFIC RD

CONSTRUCT TEMPORARY CONCRETE WASHOUT
SEE SHEET PSE002

INSTALL 8" PVC CULVERT PIPE
8.0 LF



LOADING AREA GRADING DETAIL



CULVERT SECTION

NOTE:
1. ELEVATIONS ARE TO TOP OF FINISHED SURFACING.

SCALE
0 50 100 150

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

UNION PACIFIC

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	C007 of C009

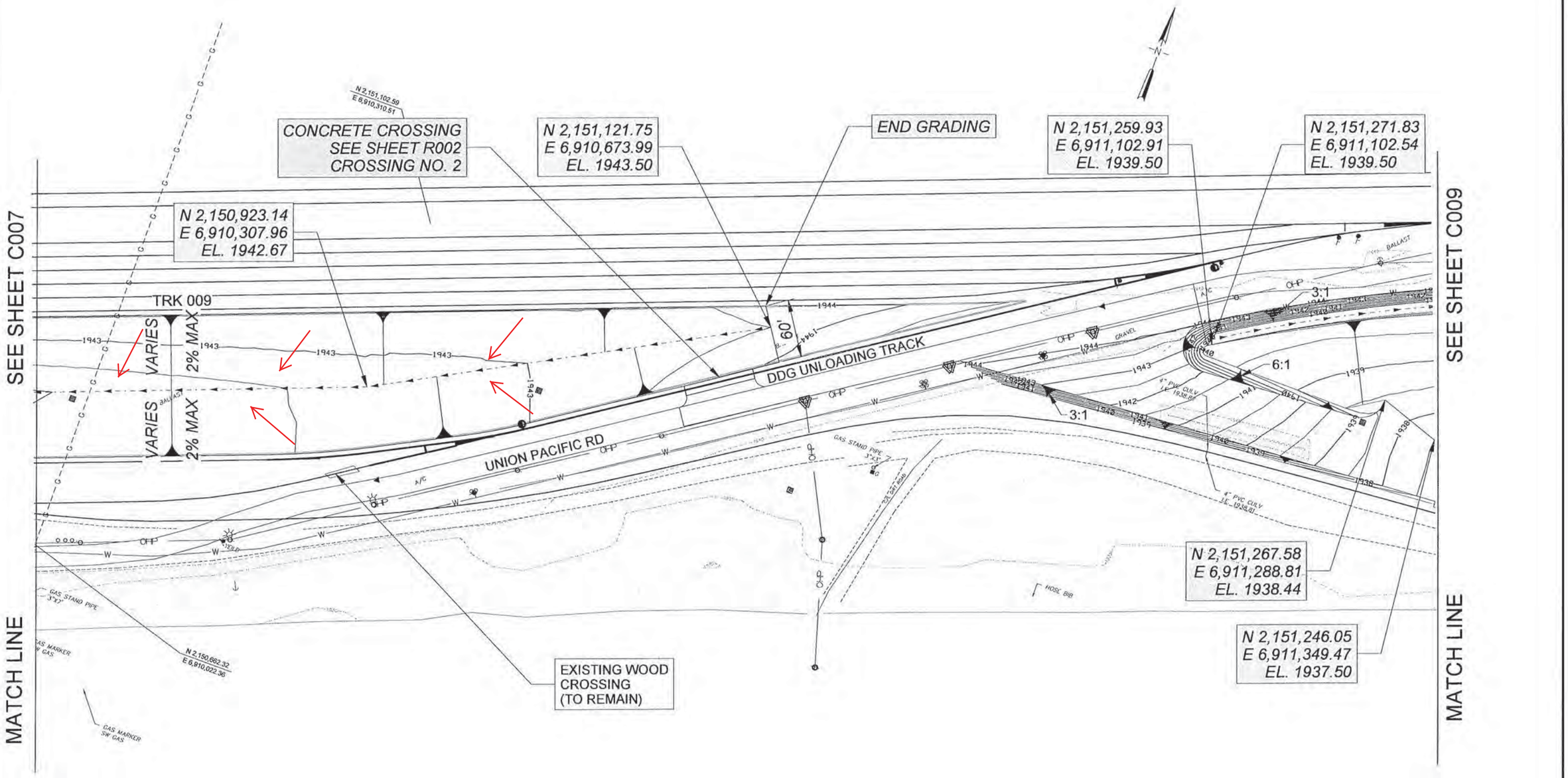
UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY
GRADING & DRAINAGE PLAN

Yermo.C007.dgn

UPRR.tbl
PLOTTING.TBL
yermo-C007.dgn
03.07.2011 3:41:16 PM



NOTE:
1. ELEVATIONS ARE TO TOP OF FINISHED SURFACING.

SCALE
0 50 100 150

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	C008 of C009

UNION PACIFIC RAILROAD Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY GRADING & DRAINAGE PLAN

Yermo_C008.dgn

UPRR.tbl
PLOTTING.TBL
Yermo_C008.dgn
03.07.2011 3:16:13 PM

SEE SHEET C008

MATCH LINE

N 2,151,415.70
E 6,911,387.70
EL. 1939.00

N 2,151,406.36
E 6,911,391.29
EL. 1939.00

N 2,151,403.56
E 6,911,392.36
EL. 1940.00

CONSTRUCT DITCH

N 2,151,817.76
E 6,912,435.41
EL. 1936.00

N 2,151,807.71
E 6,912,437.13
EL. 1936.00

N 2,151,804.69
E 6,912,437.78
EL. 1937.00

EXISTING WOOD CROSSING (TO REMAIN)

N 2,151,770.76
E 6,912,608.30
EL. 1935.50

UNION PACIFIC RD

EXISTING DIRT ROAD

EXISTING DIRT ROAD

3:1

3:1

VARIES 2% MAX

VARIES 2% MAX

VARIES 2% MAX

3" AIR-PRO PIPE AIR

1 1/2" AIR-PRO PIPE AIR

1 1/2" AIR-P

12" C.I.P.

8" C.I.P.

RELOCATED 14" CAL

N 2,151,276.65
E 6,911,438.96
EL. 1937.31

INSTALL SILT FENCE
121 LF
SEE SHEET PSE001

INSTALL SILT FENCE
25 LF
SEE SHEET PSE001

INSTALL SILT FENCE
75 LF
SEE SHEET PSE001

N 2,151,581.70
E 6,912,664.44
EL. 1933.91

N 2,151,725.33
E 6,912,609.40
EL. 1934.90

SAMPLING / MONITORING LOCATION

NOTE:
1. ELEVATIONS ARE TO TOP OF FINISHED SURFACING.

SCALE
0 50 100 150

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR
HDR Engineering, Inc.

UNION PACIFIC

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	C009 of C009

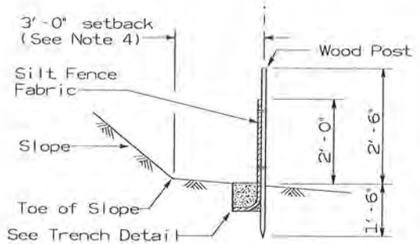
UNION PACIFIC RAILROAD
Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

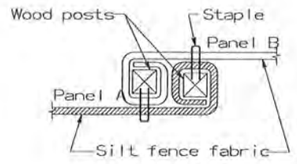
DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY GRADING & DRAINAGE PLAN

Yermo_C009.dgn

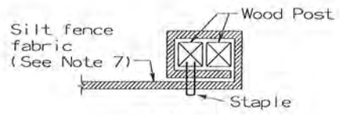
UPRR.tbl
PLOTTING.TBL
Yermo_C009.dgn
03.07.2011 3:16:49 PM



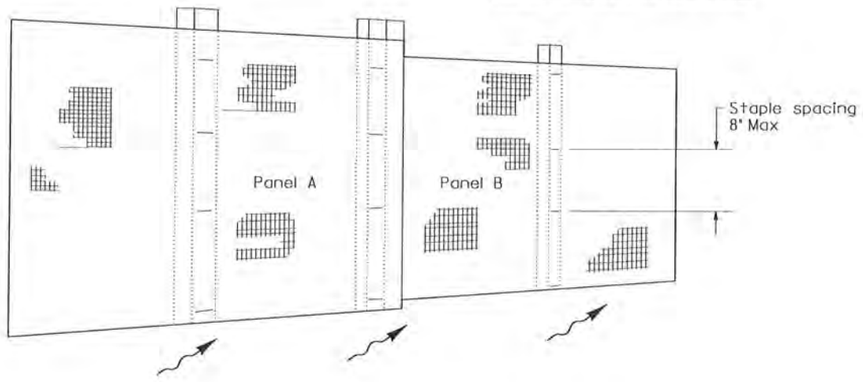
SECTION A-A
TEMPORARY SILT FENCE



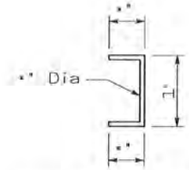
PLAN
POST AT JOINTS



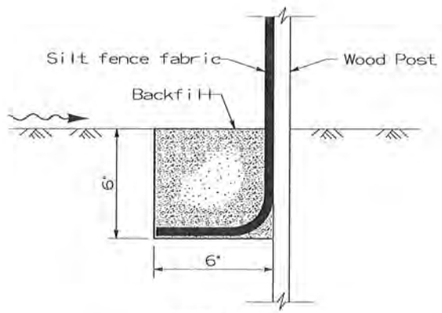
PLAN
END POST DETAIL



PERSPECTIVE
SILT FENCE PANELS AT JOINTS



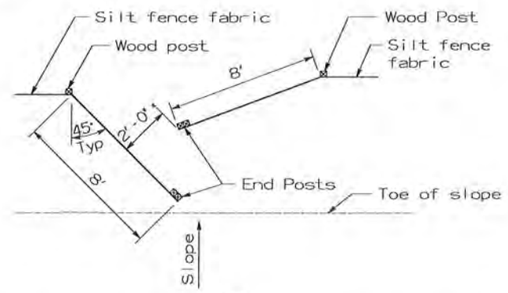
STAPLE DETAIL
(See Note 8)



SECTION
TRENCH DETAIL

NOTES:

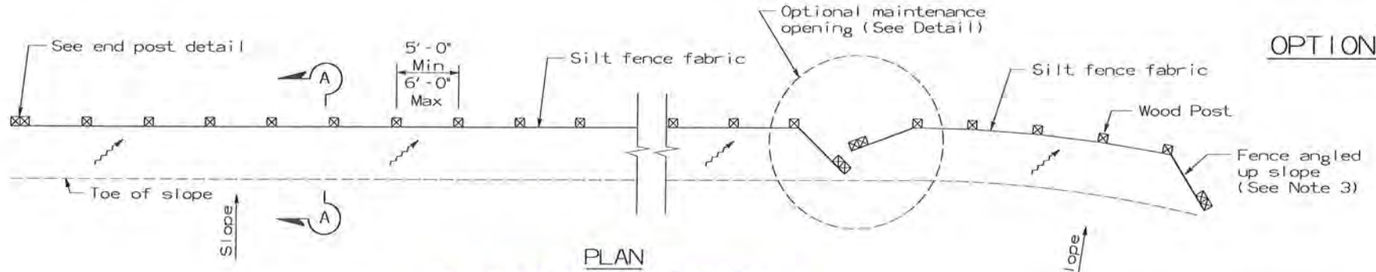
1. Install Temporary Silt Fence by first digging trench, driving posts, placing and securing fabric. Then backfill and tamp.
2. Reach length not to exceed 500 feet.
3. The down stream end of the Temporary Silt Fence shall have the last 8' angled up slope.
4. Setback dimensions may vary to fit field conditions.
5. Posts to overlap and fence fabric to fold around each post one full turn. Secure fabric with 4 staples for each post.
6. Posts shall be driven tightly together to prevent potential flow-through of sediment at the joint. The tops of the posts shall be secured to each other with wire.
7. For each end post, fence fabric shall be folded around two posts one full turn and secured with 4 staples.
8. Minimum of 4 staples shall be installed per post. Dimensions shown are typical.
9. Maintenance openings shall be constructed in a manner to ensure that sediment is retained by the temporary silt fence.
10. Joint sections shall not be placed at sump locations.



PLAN
OPTIONAL MAINTENANCE OPENING DETAIL

LEGEND

- Tamped backfill
- Slope direction
- Direction of flow



PLAN
TEMPORARY SILT FENCE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY SILT FENCE)

NO SCALE

10-27-05

T51

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

UNION PACIFIC

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	PSE001

UNION PACIFIC RAILROAD
Office of Assistant Vice President
Engineering Design

LOCATION: YERMO, CALIFORNIA

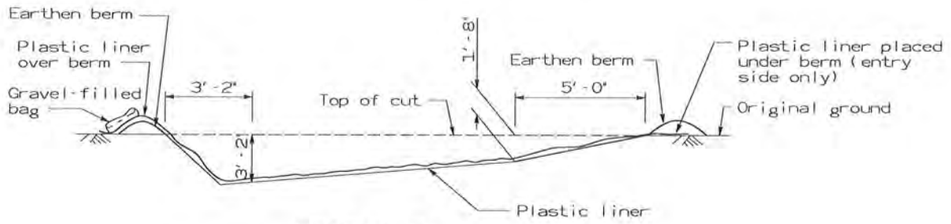
DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY
EROSION CONTROL DETAILS

Yermo.PSE001.dgn

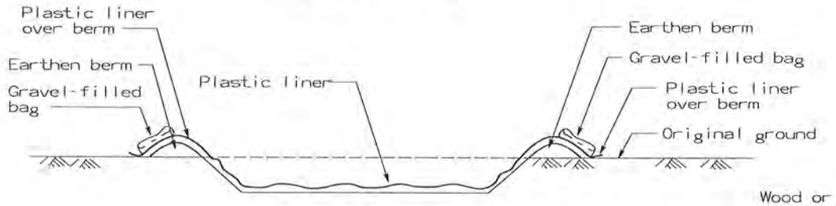
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

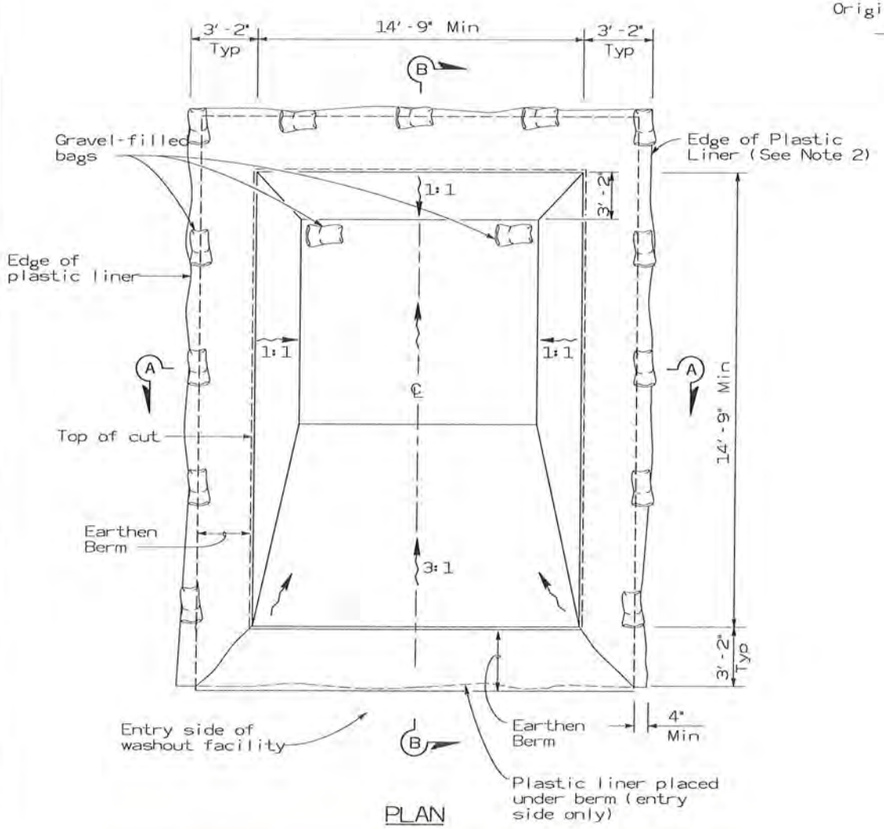
UPRR.tbl
PLOTTING.TBL
Yermo.PSE001.dgn
03.07.2011 3:17:35 PM



SECTION B-B



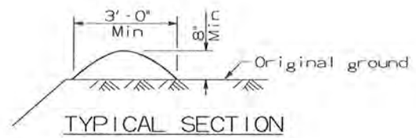
SECTION A-A



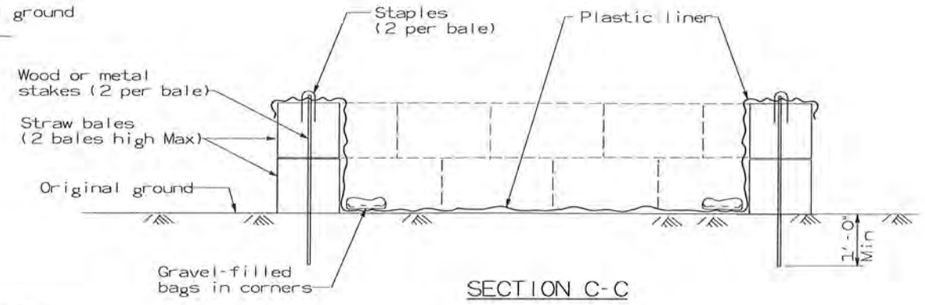
PLAN

TEMPORARY CONCRETE WASHOUT FACILITY

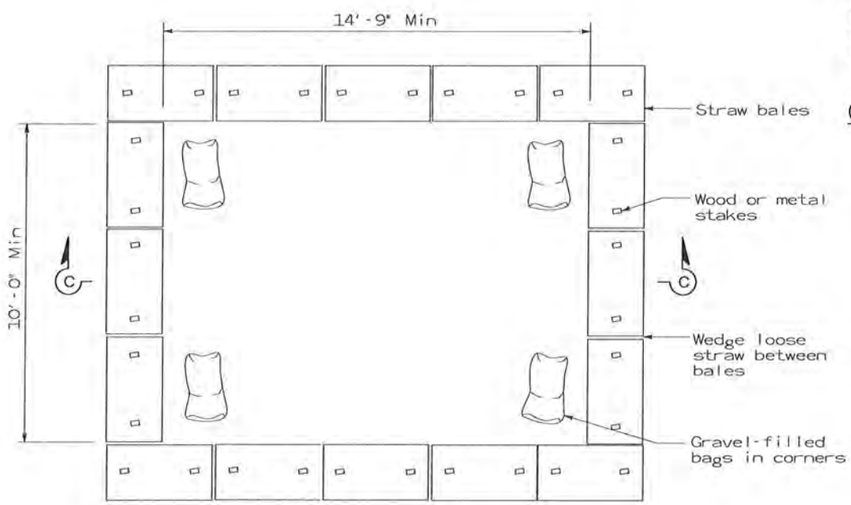
(Below Grade)



TYPICAL SECTION
EARTHEN BERM



SECTION C-C



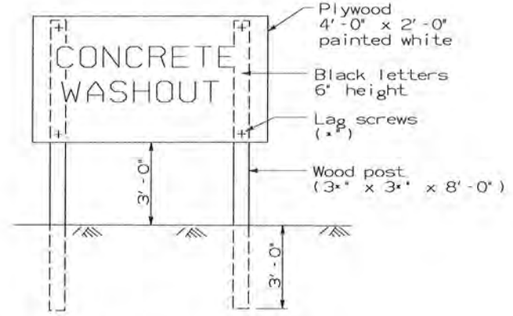
PLAN

TEMPORARY CONCRETE WASHOUT FACILITY

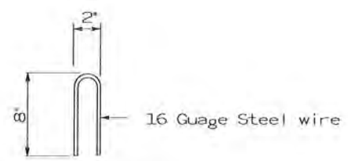
(On Grade)

NOTES:

1. The concrete washout sign shall be installed within 32'-10" of the temporary concrete washout facility.
2. Plastic liner shall be anchored with gravel-filled bags for below grade concrete washout facility.



CONCRETE WASHOUT SIGN DETAIL



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY CONCRETE WASHOUT FACILITY)
NO SCALE

10-20-05

T59

PRELIMINARY
NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

UNION PACIFIC

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	04 MAR 2011
SHEET NUMBER	PSE002

UNION PACIFIC RAILROAD — Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY EROSION CONTROL DETAIL

Yermo_PSE002.dgn

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

UPRR.tbl
PLOTTING.TBL
Yermo_PSE002.dgn
03.07.2011 3:18:05 PM

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • 1-866-563-3107
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • http://www.waterboards.ca.gov

Linda S. Adams
Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

March 22, 2011

Fee Statement
Reference # 412325

Facility/Site
Yermo California Classification Yard
Marine Road
Yermo CA 92398

Thank you for submitting the Permit Registration Documents (PRD) for the facility/site referenced above. Before a WDID number is assigned an Application Fee of $898.00 must be received by May 21, 2011 .If the Storm Water Section does not receive your application fee of $898.00 by May 21, 2011 your PRDs will be returned.

Please make checks payable to: SWRCB

Mail this Fee Statement with an original signature and $898.00 to:

Regular Mailing Address:
SWRCB
Storm Water Section
PO Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address:
SWRCB
Storm Water Section
1001 I Street – 15th Floor
Sacramento, CA 95814

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

MICHAEL ZUCKER – PROGRAM MANAGER

Printed Name / Title

Signature

State Water Resources Control Board

Linda S. Adams
Secretary for Environmental Protection

Division of Water Quality
1001 I Street Sacramento, California 95814 (916) 341-5536
Mailing Address: P.O. Box 1977 Sacramento, California 95812-1977
FAX (916) 341-5543 Internet Address: http://www.waterboards.ca.gov
Email Address:stormwater@waterboards.ca.gov

Edmund G. Brown Jr.
Governor

Reference No: 412325

March 08, 201

Michael Zucker
Union Pacific Railroad
1400 Douglas Street MS 0910
Omaha NE 68179

Re: NPDES STORM WATER APPLICATION

We received the enclosed paperwork and are returning it to you because it is incomplete or not applicable. Please see the following reason(s) below and complete as necessary:

* Incomplete Application

SWPPP must be uploaded in order to process check and assign WDID. Please upload Full SWPPP. Thank you.

When resubmitting the paperwork please make sure to enclose all of the original documents. Make sure to enclose a copy of this letter for tracking purposes.

If you have any questions regarding permit requirements, please contact us at (866) 563-3107 , or FAX (916) 341-5543 . Please visit the storm water web page at www.waterboards.ca.gov/water_issues/programs /stormwater/ to obtain storm water related information and forms.

Sincerely,

Storm Water Section
Division of Water Quality

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • 1-866-563-3107
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • http://www.waterboards.ca.gov

Linda S. Adams
Secretary for Environmental Protection

Edmund G. Brown Jr.
Governor

March 01, 2011

Fee Statement
Reference # 412325

Facility/Site
Yermo California Classification Yard
Marine Road
Yermo CA 92398

Thank you for submitting the Permit Registration Documents (PRD) for the facility/site referenced above. Before a WDID number is assigned an Application Fee of $898.00 must be received by April 30, 2011 .If the Storm Water Section does not receive your application fee of $898.00 by April 30, 2011 your PRDs will be returned.

Please make checks payable to: SWRCB

Mail this Fee Statement with an original signature and $898.00 to:

Regular Mailing Address:
SWRCB
Storm Water Section
PO Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address:
SWRCB
Storm Water Section
1001 I Street – 15th Floor
Sacramento, CA 95814

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

MICHAEL ZUCKER – PROGRAM MANAGER

Printed Name - Title

Signature

State Water Resources Control Board

NOTICE OF INTENT

GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY
(WQ ORDER No. 2009-0009-DWQ)

WDID:

Risk Level: Level1

Property Owner Information

Type: Private Business

Name: Union Pacific Railroad
Address: 1400 Douglas Street
Address 2: MS 0910
City/State/Zip: Omaha NE 68179

Contact Name: Michael Zucker
Title:
Phone #: 402-544-3281
Email: mjzucker@up.com

Contractor/Developer Information

Name: To Be Determined
Address: To Be Determined
Address 2:
City/State/Zip: San Burnardino CA 92398

Contact Name: To Be Determined
Title:
Phone #: 111-111-1111
Email: ToBeDetermined@xyz.com

Construction Site Information

Site Name: Yermo California Classification Yard
Address: Marine Road
City/State/Zip: Yermo CA 92398
County: San Bernardino
Latitude: 34.89709 Longitude: -116.84479

Contact Name: Russ Boeckner
Title: Mgr Spec Proj Field Const
Site Phone #: 714-510-4281
Email: rhboeckn@up.com

Total Size of Construction Area: 21.32
Total Area to be Disturbed: 21.32

Construction Start: April 01, 2011
Complete Grading: June 30, 2011
Final Stabilization: June 30, 2011

Type of Construction: *Reconstruction
Receiving Water:
Qualified SWPPP Developer: Lance Jones
RWQCB Jurisdiction: Region 6B - Victorville
Phone: 760-241-6583

Certification #:

Email: r6b_stormwater@waterboards.ca.gov

Certification

Name: [signature]
Title: PROGRAM MANAGER

Date: 3/7/11

THIS CHECK IS VOID WITHOUT A SECURITY BACKGROUND AND A SIGNATURE BORDER PRINTED IN A HEAT SENSITIVE INK THAT DISAPPEARS WHEN RUBBED AND IS NOT PRINTED ON BLUE AREAS

UNION PACIFIC

UP RAILROAD COMPANY

1352970

Payable through
US BANK, N.A.
56-503/422
MIAMISBURG, OH
800-872-2657

PAY IN THE AMOUNT OF Date 03/01/2011

Not Valid After 6 Months

*** EIGHT HUNDRED NINETY-EIGHT ***

$898.00

PAY TO THE
ORDER OF

SWRCB/AFRS FEES 00549
PO BOX 100
SACRAMENTO CA 95812-0100

Protected by Positive Pay

SIGNATURE AREA HAS A DISAPPEARING BORDER • CHECK BORDER CONTAINS MICROPRINTING

⑈1352970⑈ ⑆042205038⑆130103012956⑈

YERMO,CALIFORNIACLASSIFICATIONYARD RISKLEVELASSESSMENT.



February25,2011

I – Sediment Risk

1. DeterminedRvalue fromWaterBoard'sR ValueCalculator(A ppendixA1).
2. CalculatedKfactorwith2s eparatemethods:
    a. StateWaterBoard'sKValueCalculatorLocated withintheRiskAs sessmentTa bofthe SMARTsprogram.Calculatedavalue of0.16(AppendixA2).
    b. USDAWebSoilSurvey. Calculatedavalueof0.05(A ppendixA 3).

    Themoreconservativevalue(0.16)wa susedforanalysis.

3. CalculatedtheLSfa ctorba sedonanaverageslopeo f2%andlengthof 150feet (AppendixA4). Thesevalues wereobtainedformthepr oject GradingandDrainageplans (AppendixA5).
4. Thesefactorsqualifie dtheProjectfora"LowSedimentRisk"

II – Receiving Water Risk

1. TheprojectislocatedwithinHydrologic SubArea 628.50.NoTMDL'sor303(d)listedwater bodiesarelo catedwithinthisHydrologicS ubArea(s eeAppendixB1).
2. Thepossiblereceivingwaterbodyi s theMojaveRiverwhichisli stedforColdFreshwaterHabitat butnotforSpawnorMigr atory(Ap pendixB2).
3. Thesefa ctorsqualifiedtheproject fora "LowReceivingWaterRisk".

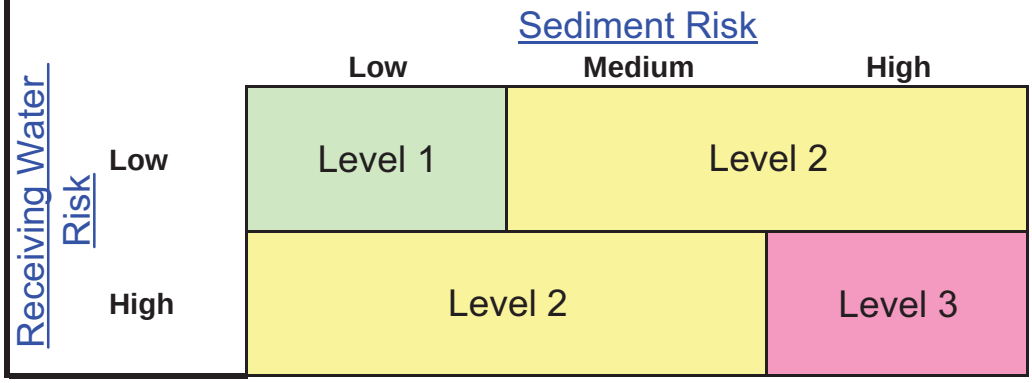
III- Overall Risk

1. ALowSedimentRiskcom binedwithaLowReceivingWater Riskproducesa RiskLevel1 .

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		0.83
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.16
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.33
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		0.043824
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**No**	**Low**
2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY?		
http://www.ice.ucdavis.edu/geowbs/asp/wbquse.asp		

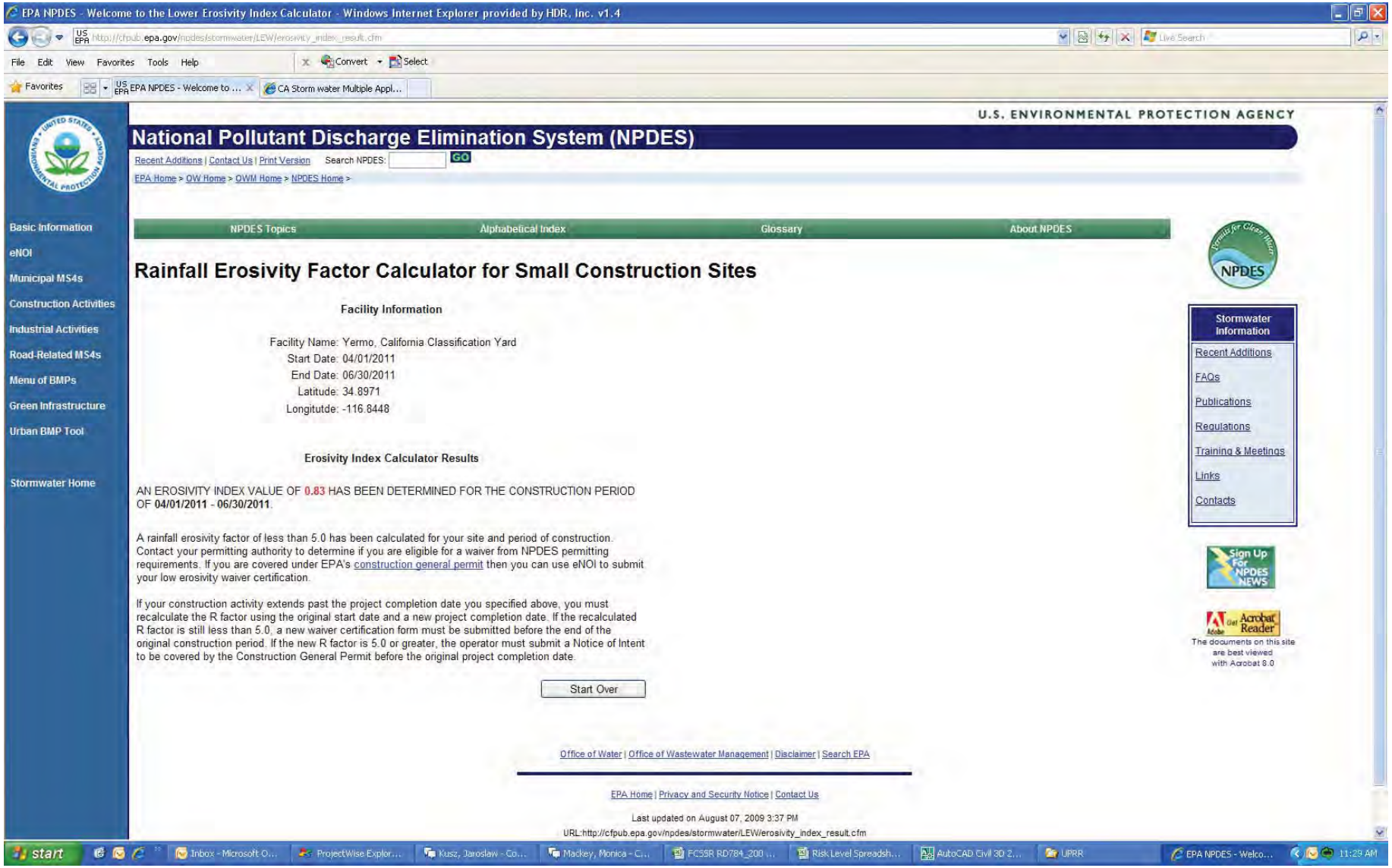
Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**Low**
Project Combined Risk:	**Level 1**

Appendix A

APPENDIX A-1
R Value Determination



APPENDIX A-2

Water Boards Storm Water Multiple Application & Report Tracking System 2

Help Logout

You are logged-in as: **Britton Marchese - HDR Engineering** .
If this account does not belong to you, please log out.

Navigate To:

NOTICE OF INTENT - Risk

The Notice of Intent (NOI) is organized into different sections. Please complete all applicable sections before submitting the form. If you want to complete the NOI at a later time, please click on "Save & Exit".

WDID:
Owner: Union Pacific Railroad, 1400 Douglas Street Omaha CA 68179
Status: In-Preparation
Processed Date:
Terminated Date:
Business Type: Construction
Site: Yermo California Classification Yard, Marine Road Yermo CA 92398
Certified Date:

Owner Info | Developer Info | Site Info | Addtnl Site Info | Risk | Billing Info | Attachments | Certification | Print | Status History

SEDIMENT RISK FACTOR WORKSHEET
Instructions: Enter R,K and LS factor values.System will calculate watershed erosion estimates and site sediment risk factor
A. Sediment Risk

A) R Factor Value:(What's this?)	0.83 * Find R Factor
B) K Factor Value (weighted average, by area, for all site soils)(What's this?) ***If not using the SWRCB map(Populate K Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	0.16 * Populate K Factor; Statewide Map of K Values
C) LS Factor (weighted average, by area, for all slopes)(What's this?) ***If not using the SWRCB map(Populate LS Factor) upload your analysis on the Attachment Tab prior to submitting to the SWRCB.	0.33 * Populate LS Factor; Statewide Map of LS Values
Watershed Erosion Estimate (=R*K*LS) in tons/acre	0.04
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >/= 15 and <75 tons/acre High Sediment Risk: >/= 75 tons/acre	Low

RECEIVING WATER (RW) RISK FACTOR WORKSHEET
A. Watershed Characteristics

A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment? If answer is "yes," the project is automatically a high receiving water risk project - proceed to "total risk" worksheet. For help with impaired waterbodies please see below: **2006 Approved Sediment Impaired WBs Worksheet** **http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml** **http://atlas.resources.ca.gov/imaps/atlas/app.asp** OR A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of COLD and SPAWN and MIGRATORY? Please see below: **http://www.ice.ucdavis.edu/geowbs/asp/wbguse.asp**	Populate Receiving Water Risk No * Yes = High, No = Low Statewide Map of High Receiving Water Risk Watersheds	Low

C. Combined Risk Level Matrix

Receiving Water Risk	Sediment Risk: Low	Medium	High
Low	Level1		Level2
High		Level2	Level3

Project Sediment Risk: Low
Project Receiving Water Risk: Low
Project Combined Risk: Level1

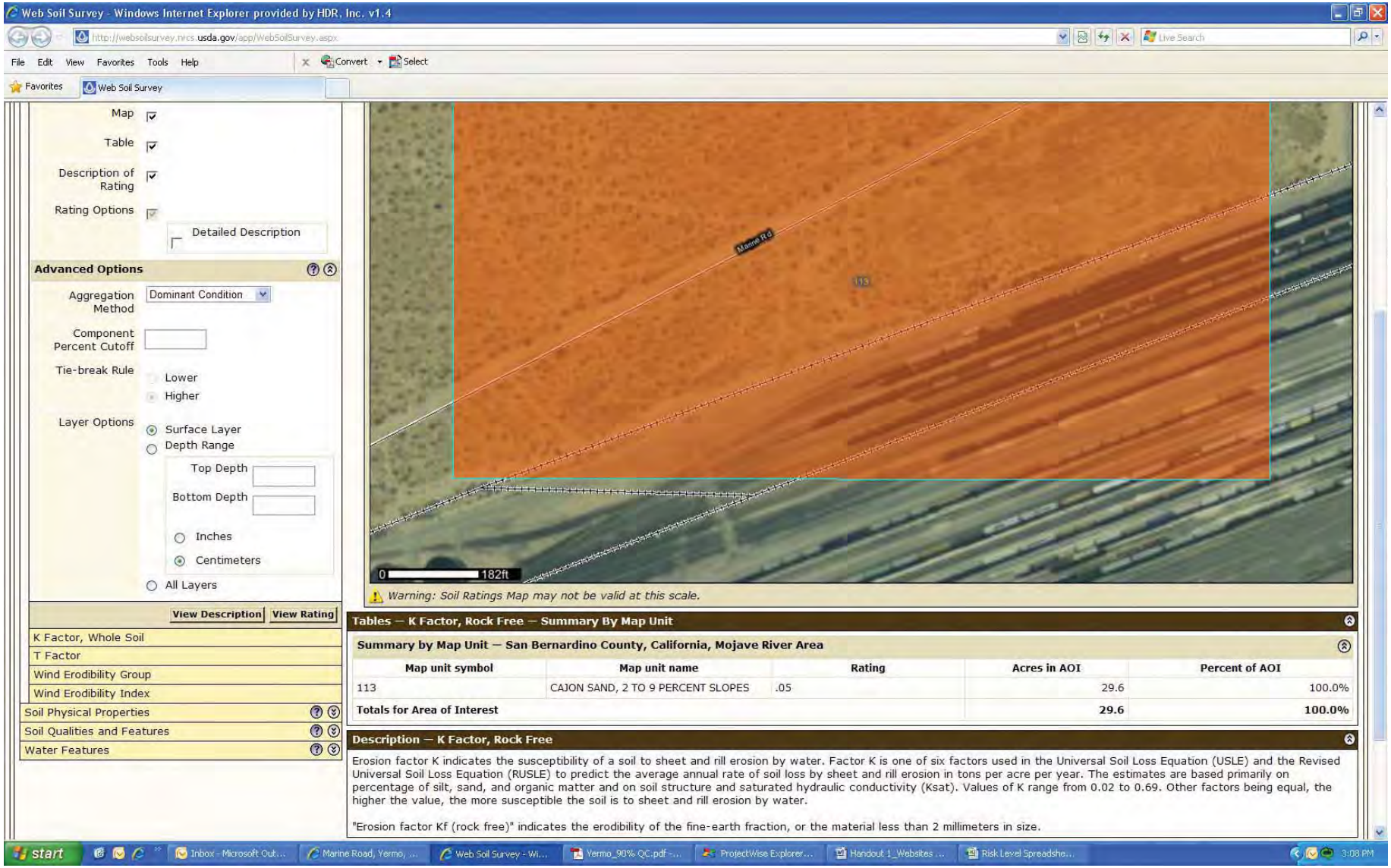
Save & Exit | Save & Continue

Fields marked with * are mandatory fields.

© 2011 State of California. Conditions of Use Privacy Policy

APPENDIX A-3

K Factor Determination



APPENDIX A-4

Sheet Flow Length (ft)	Average Watershed Slope (%)							
	0.2	**0.5**	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

APPENDIX A-5

SEE SHEET C007

MATCH LINE

CONSTRUCT DITCH

EL. 1939.00

EL. 1940.00

UNION PACIFIC RD

3:1

VARIES

EL. 1936.00

EL. 1937.00

EL. 1935.50

3:1

EXISTING WOOD CROSSING

EL. 1934.90

EL. 1937.50

EXISTING DIRT ROAD

6"GRANULAR SERVICE ROAD SEE SHEET R001

INSTALL SILT FENCE 121 LF SEE SHEET PSE001

INSTALL SILT FENCE 25 LF SEE SHEET PSE001

EL. 1933.91

INSTALL SILT FENCE 75 LF SEE SHEET PSE001

RELOCATED 14" CAL-NEV PIPELINE

EXISTING DIRT ROAD

NOTE:
1. ELEVATIONS ARE TO TOP OF FINISHED SURFACING.

SCALE 0 50 100 150

PRELIMINARY

NOT FOR CONSTRUCTION DATE: 02/25/2011

HDR Engineering, Inc.

DRAWN BY:	LAK
CHECKED BY:	RMN
DATE:	25 FEB 2011
SHEET NUMBER	C008 of C009

UNION PACIFIC RAILROAD

Office of Assistant Vice President Engineering Design

LOCATION: YERMO, CALIFORNIA

DWG TITLE: DRIED DISTILLED GRAIN TRANSLOAD FACILITY GRADING PLAN & DRAINAGE PLAN

UPRR.tbl
PLOTTING.TBL
Yermo_C009.dgn
02.23.2011 4:32:50 PM

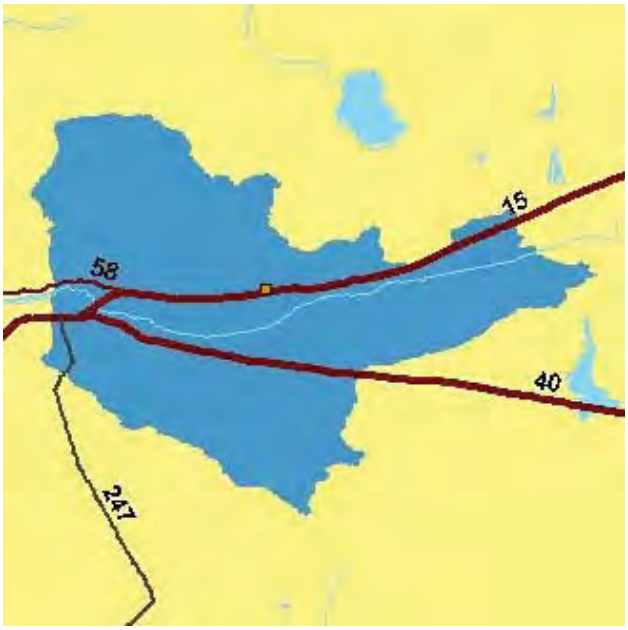
Yermo_C009.dgn

Appendix B

APPENDIX B-1

Hydrologic Sub-Area 628.50

| HSA Information | TMDLs & 303(d) List | Water Quality Objectives | Caltrans Facilities | Caltrans Loads |





Topographic Map of the area around post mile SBD 15 R84.242.
Aerial Photograph of the area around post mile SBD 15 R84.242.
Help

HSA Information

Hydrologic Unit	MOJAVE
Hydrologic Area	Lower Mojave
Hydrologic Sub-Area	undefined
Watershed Area (acres)	203212
Average Annual Rainfall (inches)	4.3

Help

TMDLs & 303(d) Listed Waterbodies (2006 List)

Name	Pollutant	Source	Size	Status	Comments

No listings found.

Key: Water body on 303(d) Water body with a

Show only Targeted Design

APPENDIX B-2

Mojave River

Watershed Specific Water Quality Objectives

Waterbody Reach	Beneficial Use	Constituent	Limit	Units	Details	Reference	Comments
at Barstow	ALL	Nitrogen as Nitrate	6	mg/L	-	-	
at Barstow	ALL	TDS	445	mg/L	-	-	
at Forks	ALL	Boron	0.2	mg/L	-	-	
at Forks	ALL	Chloride	55	mg/L	-	-	
at Forks	ALL	Fluoride	1.5	mg/L	-	-	
at Forks	ALL	Sulfate	35	mg/L	-	-	
at Victorville	ALL	Chloride	75	mg/L	-	-	
at Victorville	ALL	Fluoride	0.2	mg/L	-	-	
at Victorville	ALL	Sulfate	40	mg/L	-	-	
E.F. of W.F.	ALL	Boron	0.06	mg/L	-	-	
E.F. of W.F.	ALL	Chloride	12.7	mg/L	-	-	
E.F. of W.F.	ALL	Fluoride	0.23	mg/L	-	-	
E.F. of W.F.	ALL	Sulfate	10.7	mg/L	-	-	
E.F. of W.F.	ALL	TDS	140	mg/L	-	-	
just upstream of Camp Cady Ranch building Complex	ALL	Nitrogen as Nitrate	1	mg/L	-	-	
just upstream of Camp Cady Ranch building Complex	ALL	TDS	300	mg/L	-	-	
upstream side of Waterman Fault	ALL	Nitrogen as Nitrate	11	mg/L	-	-	
upstream side of Waterman Fault	ALL	TDS	560	mg/L	-	-	

W.F. above Silverwood Lake	ALL	Boron	0.02	mg/L	-	-	
W.F. above Silverwood Lake	ALL	Chloride	8.4	mg/L	-	-	
W.F. above Silverwood Lake	ALL	Fluoride	0.26	mg/L	-	-	
W.F. above Silverwood LakeW.F. above Silverwood Lake	ALL	Sulfate	34	mg/L	-	-	
W.F. above Silverwood LakeW.F. above Silverwood Lake	ALL	TDS	219	mg/L	-	-	

Numeric Water Quality Objectives

Beneficial Use	Constituent	Limit	Units	Details	Reference	Comments
Cold Freshwater Habitat	Dissolved Oxygen	-4	mg/L	1 day minimum	USEPA 1986	1 day minimum. All minima should be considered as instantaneous concentrations to be achieved at all times.
Cold Freshwater Habitat	Dissolved Oxygen	-6.5	mg/L	30 day mean	USEPA 1986	30 day mean.
Cold Freshwater Habitat	Dissolved Oxygen	-5	mg/L	7 day mean	USEPA 1986	7 day mean.
Municipal and Domestic Supply	1,1,1-Trichloroethane	0.2	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,1,2,2-Tetrachloroethane	0.001	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,1,2-Trichloroethane	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,1-Dichloroethane	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,1-Dichloroethylene	0.006	mg/L	-	TITLE22	
Municipal and Domestic	1,2,4-Trichlorobenzene	0.07	mg/L	-	TITLE22	

Supply						
Municipal and Domestic Supply	1,2-Dibromo-3-Chloropropane	0.0002	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,2-Dichlorobenzene	0.6	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,2-Dichloroethane	0.0005	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,2-Dichloropropane	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,3-Dichloropropene	0.0005	mg/L	-	TITLE22	
Municipal and Domestic Supply	1,4-Dichlorobenzene	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	2,3,7,8-TCDD (Dioxin)	0.0000003	mg/L	-	TITLE22	
Municipal and Domestic Supply	2,4,5-TP (Silvex)	0.05	mg/L	-	TITLE22	
Municipal and Domestic Supply	2,4-D	0.07	mg/L	-	TITLE22	
Municipal and Domestic Supply	Alachlor	0.002	mg/L	-	TITLE22	
Municipal and Domestic Supply	Aluminum	1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Antimony	0.006	mg/L	-	TITLE22	
Municipal and Domestic Supply	Arsenic	0.05	mg/L	-	TITLE22	
Municipal and Domestic	Asbestos	7	MFL	-	TITLE22	Million fibers per liter

Supply						
Municipal and Domestic Supply	Atrazine	0.003	mg/L	-	TITLE22	
Municipal and Domestic Supply	Barium	1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Bentazon	0.018	mg/L	-	TITLE22	
Municipal and Domestic Supply	Benzene	0.001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Benzo(a)pyrene	0.0002	mg/L	-	TITLE22	
Municipal and Domestic Supply	Beryllium	0.004	mg/L	-	TITLE22	
Municipal and Domestic Supply	Cadmium	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Carbofuran	0.018	mg/L	-	TITLE22	
Municipal and Domestic Supply	Carbon Tetrachloride	0.0005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Chlordane	0.0001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Chromium	0.05	mg/L	-	TITLE22	
Municipal and Domestic Supply	cis-1,2-Dichloroethylene	0.006	mg/L	-	TITLE22	
Municipal and Domestic Supply	Copper	1.3	mg/L	-	TITLE22, Pb&Cu Rule	in>10% of tap water samples collected
Municipal and Domestic	Cyanide	0.2	mg/L	-	TITLE22	



Supply						
Municipal and Domestic Supply	Dalapon	0.2	mg/L	-	TITLE22	
Municipal and Domestic Supply	Di(2-ethylhexyl)adipate	0.4	mg/L	-	TITLE22	
Municipal and Domestic Supply	Di(2-ethylhexyl)phthalate	0.004	mg/L	-	TITLE22	
Municipal and Domestic Supply	Dichloromethane	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Dinoseb	0.007	mg/L	-	TITLE22	
Municipal and Domestic Supply	Diquat	0.02	mg/L	-	TITLE22	
Municipal and Domestic Supply	Endothall	0.1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Endrin	0.002	mg/L	-	TITLE22	
Municipal and Domestic Supply	Ethylbenzene	0.7	mg/L	-	TITLE22	
Municipal and Domestic Supply	Ethylene Dibromide	0.00005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Fluoride	2.4	mg/L	<53.7F		
Municipal and Domestic Supply	Fluoride	2.2	mg/L	53.8F-58.3F		
Municipal and Domestic Supply	Fluoride	2	mg/L	58.4F-63.8F		
Municipal and Domestic	Fluoride	1.8	mg/L	63.9F-70.6F		

Supply						
Municipal and Domestic Supply	Fluoride	1.6	mg/L	70.7F-79.2F		
Municipal and Domestic Supply	Fluoride	1.4	mg/L	79.3F-90.5F		
Municipal and Domestic Supply	Freon 113	1.2	mg/L	-	TITLE22	
Municipal and Domestic Supply	Glyphosate	0.7	mg/L	-	TITLE22	
Municipal and Domestic Supply	Heptachlor	0.00001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Heptachlor Epoxide	0.00001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Hexachlorobenzene	0.001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Hexachlorocyclopentadiene	0.05	mg/L	-	TITLE22	
Municipal and Domestic Supply	Lead	0.015	mg/L	-	TITLE22, Pb&Cu Rule	in>10% of tap water samples collected
Municipal and Domestic Supply	Lindane	0.0002	mg/L	-	TITLE22	
Municipal and Domestic Supply	Mercury	0.002	mg/L	-	TITLE22	
Municipal and Domestic Supply	Methoxychlor	0.04	mg/L	-	TITLE22	
Municipal and Domestic Supply	Molinate	0.02	mg/L	-	TITLE22	
Municipal and Domestic	Monochlorobenzene	0.07	mg/L	-	TITLE22	



Supply						
Municipal and Domestic Supply	Nickel	0.1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Nitrate (as NO3)	45	mg/L	-	TITLE22	
Municipal and Domestic Supply	Nitrate + Nitrite (sum as nitrogen)	10	mg/L	-	TITLE22	
Municipal and Domestic Supply	Nitrite (as nitrogen)	1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Oxamyl	0.2	mg/L	-	TITLE22	
Municipal and Domestic Supply	PCBs	0.0005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Pentachlorophenol	0.001	mg/L	-	TITLE22	
Municipal and Domestic Supply	Picloram	0.5	mg/L	-	TITLE22	
Municipal and Domestic Supply	Selenium	0.05	mg/L	-	TITLE22	
Municipal and Domestic Supply	Simazine	0.004	mg/L	-	TITLE22	
Municipal and Domestic Supply	Styrene	0.1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Tetrachloroethylene	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Thallium	0.002	mg/L	-	TITLE22	
Municipal and Domestic	Thiobencarb	0.07	mg/L	-	TITLE22	



Supply						
Municipal and Domestic Supply	Toluene	0.15	mg/L	-	TITLE22	
Municipal and Domestic Supply	Toxaphene	0.003	mg/L	-	TITLE22	
Municipal and Domestic Supply	trans-1,2-Dichloroethylene	0.1	mg/L	-	TITLE22	
Municipal and Domestic Supply	Trichloroethylene	0.005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Trichlorofluoromethane	0.15	mg/L	-	TITLE22	
Municipal and Domestic Supply	Vinyl Chloride	0.0005	mg/L	-	TITLE22	
Municipal and Domestic Supply	Xylenes	1.75	mg/L	-	TITLE22	(signle isomer or sum of isomers)
Warm Freshwater Habitat	Dissolved Oxygen	-3	mg/L	1 day minimum	USEPA 1986	1 day minimum. All minima should be considered as instaneous concentrations to be achieved at all times.
Warm Freshwater Habitat	Dissolved Oxygen	-5.5	mg/L	30 day mean	USEPA 1986	30 day mean
Warm Freshwater Habitat	Dissolved Oxygen	-4	mg/L	7 day mean	USEPA 1986	7 day mean minimum.

Ammonia Water Quality Objectives

Beneficial Use	Constituent	pH	Temperature	Duration	Concentration	Units	Details	Reference
Cold Freshwater Habitat	Ammonia	6.5	0	1 Hour	0.0091	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	0	4 Day	0.0008	mg/L	-	

Cold Freshwater Habitat	Ammonia	6.5	10	1 Hour	0.0182	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	10	4 Day	0.0016	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	15	1 Hour	0.026	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	15	4 Day	0.0022	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	20	1 Hour	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	20	4 Day	0.0022	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	25	1 Hour	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	25	4 Day	0.0022	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	30	1 Hour	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	30	4 Day	0.0022	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	5	1 Hour	0.0129	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.5	5	4 Day	0.0011	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	0	1 Hour	0.0149	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	0	4 Day	0.0014	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	10	1 Hour	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	10	4 Day	0.0028	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	15	1 Hour	0.059	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	15	4 Day	0.0039	mg/L	-	



Cold Freshwater Habitat	Ammonia	6.75	20	1 Hour	0.059	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	20	4 Day	0.0039	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	25	1 Hour	0.059	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	25	4 Day	0.0039	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	30	1 Hour	0.059	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	30	4 Day	0.0039	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	5	1 Hour	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia	6.75	5	4 Day	0.002	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	0	1 Hour	0.023	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	0	4 Day	0.0025	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	10	1 Hour	0.046	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	10	4 Day	0.0049	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	15	1 Hour	0.066	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	15	4 Day	0.007	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	20	1 Hour	0.093	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	20	4 Day	0.007	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	25	1 Hour	0.093	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	25	4 Day	0.007	mg/L	-	



Cold Freshwater Habitat	Ammonia	7	30	1 Hour	0.093	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	30	4 Day	0.007	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	5	1 Hour	0.033	mg/L	-	
Cold Freshwater Habitat	Ammonia	7	5	4 Day	0.0035	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	0	1 Hour	0.034	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	0	4 Day	0.0044	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	10	1 Hour	0.068	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	10	4 Day	0.0088	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	15	1 Hour	0.095	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	15	4 Day	0.0124	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	20	1 Hour	0.135	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	20	4 Day	0.0124	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	25	1 Hour	0.0124	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	25	4 Day	0.135	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	30	1 Hour	0.135	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	30	4 Day	0.0124	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	5	1 Hour	0.048	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.25	5	4 Day	0.0062	mg/L	-	



Cold Freshwater Habitat	Ammonia	7.5	0	1 Hour	0.045	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	0	4 Day	0.0078	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	10	1 Hour	0.091	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	10	4 Day	0.0156	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	15	1 Hour	0.128	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	15	4 Day	0.022	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	20	1 Hour	0.181	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	20	4 Day	0.022	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	25	1 Hour	0.181	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	25	4 Day	0.022	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	30	1 Hour	0.181	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	30	4 Day	0.022	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	5	1 Hour	0.064	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.5	5	4 Day	0.0111	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	0	1 Hour	0.056	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	0	4 Day	0.0129	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	10	1 Hour	0.113	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	10	4 Day	0.026	mg/L	-	



Cold Freshwater Habitat	Ammonia	7.75	15	1 Hour	0.159	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	15	4 Day	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	20	1 Hour	0.22	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	20	4 Day	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	25	1 Hour	0.22	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	25	4 Day	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	30	1 Hour	0.22	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	30	4 Day	0.036	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	5	1 Hour	0.08	mg/L	-	
Cold Freshwater Habitat	Ammonia	7.75	5	4 Day	0.0182	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	0	1 Hour	0.065	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	0	4 Day	0.0149	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	10	1 Hour	0.13	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	10	4 Day	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	15	1 Hour	0.184	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	15	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	20	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	20	4 Day	0.042	mg/L	-	



Cold Freshwater Habitat	Ammonia	8	25	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	25	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	30	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	30	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	5	1 Hour	0.092	mg/L	-	
Cold Freshwater Habitat	Ammonia	8	5	4 Day	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	0	1 Hour	0.065	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	0	4 Day	0.0149	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	10	1 Hour	0.13	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	10	4 Day	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	15	1 Hour	0.184	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	15	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	20	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	20	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	25	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	25	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	30	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	30	4 Day	0.042	mg/L	-	



Cold Freshwater Habitat	Ammonia	8.25	5	1 Hour	0.092	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.25	5	4 Day	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	0	1 Hour	0.065	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	0	4 Day	0.0149	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	10	1 Hour	0.13	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	10	4 Day	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	15	1 Hour	0.184	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	15	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	20	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	20	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	25	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	25	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	30	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	30	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	5	1 Hour	0.092	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.5	5	4 Day	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	0	1 Hour	0.065	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	0	4 Day	0.0149	mg/L	-	



Cold Freshwater Habitat	Ammonia	8.75	10	1 Hour	0.13	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	10	4 Day	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	15	1 Hour	0.184	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	15	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	20	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	20	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	25	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	25	4 Day	0.42	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	30	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	30	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	5	1 Hour	0.092	mg/L	-	
Cold Freshwater Habitat	Ammonia	8.75	5	4 Day	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	0	1 Hour	0.065	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	0	4 Day	0.0149	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	10	1 Hour	0.13	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	10	4 Day	0.03	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	15	1 Hour	0.184	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	15	4 Day	0.042	mg/L	-	



Cold Freshwater Habitat	Ammonia	9	20	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	20	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	25	1 Hour	0.26	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	25	4 Day	0.042	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	5	1 Hour	0.092	mg/L	-	
Cold Freshwater Habitat	Ammonia	9	5	4 Day	0.021	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	0	1 Hour	35	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	0	4 Day	3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	10	1 Hour	31	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	10	4 Day	2.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	15	1 Hour	30	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	15	4 Day	2.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	20	1 Hour	29	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	20	4 Day	1.76	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	25	1 Hour	20	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	25	4 Day	1.23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	30	1 Hour	14.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	30	4 Day	0.87	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	6.5	5	1 Hour	33	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.5	5	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	0	1 Hour	32	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	0	4 Day	3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	10	1 Hour	28	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	10	4 Day	2.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	15	1 Hour	27	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	15	4 Day	2.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	20	1 Hour	27	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	20	4 Day	1.76	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	25	1 Hour	18.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	25	4 Day	1.23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	30	1 Hour	13.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	30	4 Day	0.87	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	5	1 Hour	30	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	6.75	5	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	0	1 Hour	28	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	0	4 Day	3	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	7	10	1 Hour	25	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	10	4 Day	2.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	15	1 Hour	24	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	15	4 Day	2.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	20	1 Hour	23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	20	4 Day	1.76	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	25	1 Hour	16.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	25	4 Day	1.23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	30	1 Hour	11.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	30	4 Day	0.87	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	5	1 Hour	26	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7	5	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	0	1 Hour	23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	0	4 Day	3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	10	1 Hour	20	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	10	4 Day	2.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	15	1 Hour	19.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	15	4 Day	2.6	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	7.25	20	1 Hour	19.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	20	4 Day	1.77	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	25	1 Hour	1.24	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	25	4 Day	0.093	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	30	1 Hour	9.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	30	4 Day	0.88	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	5	1 Hour	22	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.25	5	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	0	1 Hour	17.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	0	4 Day	3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	10	1 Hour	15.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	10	4 Day	2.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	15	1 Hour	14.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	15	4 Day	2.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	20	1 Hour	14.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	20	4 Day	1.78	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	25	1 Hour	10.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	25	4 Day	1.25	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	7.5	30	1 Hour	7.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	30	4 Day	0.89	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	5	1 Hour	16.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.5	5	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	0	1 Hour	12.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	0	4 Day	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	10	1 Hour	10.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	10	4 Day	2.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	15	1 Hour	10.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	15	4 Day	2.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	20	1 Hour	10.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	20	4 Day	1.66	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	25	1 Hour	7.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	25	4 Day	1.17	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	30	1 Hour	5.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	30	4 Day	0.84	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	5	1 Hour	11.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	7.75	5	4 Day	2.6	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	8	0	1 Hour	8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	0	4 Day	1.82	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	10	1 Hour	7.1	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	10	4 Day	1.62	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	15	1 Hour	6.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	15	4 Day	1.57	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	20	1 Hour	6.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	20	4 Day	1.1	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	25	1 Hour	4.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	25	4 Day	0.78	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	30	1 Hour	3.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	30	4 Day	0.56	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	5	1 Hour	7.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8	5	4 Day	1.7	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	0	1 Hour	4.5	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	0	4 Day	1.03	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	10	1 Hour	4.1	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	10	4 Day	0.93	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	8.25	15	1 Hour	4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	15	4 Day	0.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	20	1 Hour	3.9	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	20	4 Day	0.64	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	25	1 Hour	2.8	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	25	4 Day	0.046	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	30	1 Hour	2.1	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	30	4 Day	0.33	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	5	1 Hour	4.2	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.25	5	4 Day	0.97	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	0	1 Hour	2.6	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	0	4 Day	0.58	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	10	1 Hour	2.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	10	4 Day	0.53	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	15	1 Hour	2.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	15	4 Day	0.53	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	20	1 Hour	2.3	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	20	4 Day	0.38	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	8.5	25	1 Hour	1.71	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	25	4 Day	0.28	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	30	1 Hour	1.28	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	30	4 Day	0.21	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	5	1 Hour	2.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.5	5	4 Day	0.55	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	0	1 Hour	1.47	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	0	4 Day	0.34	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	10	1 Hour	1.37	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	10	4 Day	0.31	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	15	1 Hour	1.38	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	15	4 Day	0.31	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	20	1 Hour	1.42	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	20	4 Day	0.23	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	25	1 Hour	1.07	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	25	4 Day	0.173	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	30	1 Hour	0.83	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	30	4 Day	0.135	mg/L	-	



Cold Freshwater Habitat	Ammonia, Total	8.75	5	1 Hour	1.4	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	8.75	5	4 Day	0.32	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	0	1 Hour	0.86	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	0	4 Day	0.195	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	10	1 Hour	0.83	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	10	4 Day	0.189	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	15	1 Hour	0.86	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	15	4 Day	0.195	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	20	1 Hour	0.91	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	20	4 Day	0.148	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	25	1 Hour	0.72	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	25	4 Day	0.116	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	5	1 Hour	0.83	mg/L	-	
Cold Freshwater Habitat	Ammonia, Total	9	5	4 Day	0.189	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	0	1 Hour	0.0091	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	0	4 Day	0.0008	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	10	1 Hour	0.0182	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	10	4 Day	0.0016	mg/L	-	

Warm Freshwater Habitat	Ammonia	6.5	15	1 Hour	0.026	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	15	4 Day	0.0022	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	20	1 Hour	0.036	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	20	4 Day	0.0031	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	25	1 Hour	0.051	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	25	4 Day	0.0031	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	30	1 Hour	0.051	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	30	4 Day	0.0031	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	5	1 Hour	0.0129	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.5	5	4 Day	0.0011	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	0	1 Hour	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	0	4 Day	0.0014	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	10	1 Hour	0.03	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	10	4 Day	0.0028	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	15	1 Hour	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	15	4 Day	0.0039	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	20	1 Hour	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	20	4 Day	0.0055	mg/L	-	



Warm Freshwater Habitat	Ammonia	6.75	25	1 Hour	0.084	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	25	4 Day	0.0055	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	30	1 Hour	0.084	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	30	4 Day	0.0055	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	5	1 Hour	0.021	mg/L	-	
Warm Freshwater Habitat	Ammonia	6.75	5	4 Day	0.002	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	0	1 Hour	0.023	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	0	4 Day	0.0025	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	10	1 Hour	0.046	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	10	4 Day	0.0049	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	15	1 Hour	0.066	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	15	4 Day	0.007	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	20	1 Hour	0.093	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	20	4 Day	0.0099	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	25	1 Hour	0.131	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	25	4 Day	0.0099	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	30	1 Hour	0.093	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	30	4 Day	0.0099	mg/L	-	

Warm Freshwater Habitat	Ammonia	7	5	1 Hour	0.033	mg/L	-	
Warm Freshwater Habitat	Ammonia	7	5	4 Day	0.0035	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	0	1 Hour	0.034	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	0	4 Day	0.0044	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	10	1 Hour	0.068	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	10	4 Day	0.0088	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	15	1 Hour	0.095	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	15	4 Day	0.0124	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	20	1 Hour	0.135	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	20	4 Day	0.0175	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	25	1 Hour	0.19	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	25	4 Day	0.0175	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	30	1 Hour	0.19	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	30	4 Day	0.0175	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	5	1 Hour	0.048	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.25	5	4 Day	0.0062	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	0	1 Hour	0.045	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	0	4 Day	0.0078	mg/L	-	



Warm Freshwater Habitat	Ammonia	7.5	10	1 Hour	0.091	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	10	4 Day	0.0156	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	15	1 Hour	0.128	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	15	4 Day	0.022	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	20	1 Hour	0.181	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	20	4 Day	0.031	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	25	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	25	4 Day	0.031	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	30	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	30	4 Day	0.031	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	5	1 Hour	0.064	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.5	5	4 Day	0.0111	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	0	1 Hour	0.056	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	0	4 Day	0.0129	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	10	1 Hour	0.113	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	10	4 Day	0.026	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	15	1 Hour	0.159	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	15	4 Day	0.036	mg/L	-	



Warm Freshwater Habitat	Ammonia	7.75	20	1 Hour	0.22	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	20	4 Day	0.051	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	25	1 Hour	0.32	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	25	4 Day	0.051	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	30	1 Hour	0.32	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	30	4 Day	0.051	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	5	1 Hour	0.08	mg/L	-	
Warm Freshwater Habitat	Ammonia	7.75	5	4 Day	0.0182	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	0	1 Hour	0.065	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	0	4 Day	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	10	1 Hour	0.13	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	10	4 Day	0.03	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	15	1 Hour	0.184	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	15	4 Day	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	20	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	20	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	25	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	25	4 Day	0.059	mg/L	-	



Warm Freshwater Habitat	Ammonia	8	30	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	30	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	5	1 Hour	0.092	mg/L	-	
Warm Freshwater Habitat	Ammonia	8	5	4 Day	0.021	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	0	1 Hour	0.065	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	0	4 Day	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	10	1 Hour	0.13	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	10	4 Day	0.03	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	15	1 Hour	0.184	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	15	4 Day	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	20	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	20	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	25	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	25	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	30	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	30	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	5	1 Hour	0.092	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.25	5	4 Day	0.021	mg/L	-	

Warm Freshwater Habitat	Ammonia	8.5	0	1 Hour	0.065	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	0	4 Day	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	10	1 Hour	0.13	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	10	4 Day	0.03	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	15	1 Hour	0.184	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	15	4 Day	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	20	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	20	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	25	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	25	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	30	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	30	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	5	1 Hour	0.092	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.5	5	4 Day	0.021	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	0	1 Hour	0.065	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	0	4 Day	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	10	1 Hour	0.13	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	10	4 Day	0.03	mg/L	-	



Warm Freshwater Habitat	Ammonia	8.75	15	1 Hour	0.184	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	15	4 Day	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	20	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	20	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	25	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	25	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	30	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	30	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	5	1 Hour	0.092	mg/L	-	
Warm Freshwater Habitat	Ammonia	8.75	5	4 Day	0.021	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	0	1 Hour	0.065	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	0	4 Day	0.0149	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	10	1 Hour	0.13	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	10	4 Day	0.03	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	15	1 Hour	0.184	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	15	4 Day	0.042	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	20	1 Hour	0.26	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	20	4 Day	0.059	mg/L	-	



Warm Freshwater Habitat	Ammonia	9	25	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	25	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	30	1 Hour	0.37	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	30	4 Day	0.059	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	5	1 Hour	0.092	mg/L	-	
Warm Freshwater Habitat	Ammonia	9	5	4 Day	0.021	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	0	1 Hour	35	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	0	4 Day	3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	10	1 Hour	31	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	10	4 Day	2.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	15	1 Hour	30	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	15	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	20	1 Hour	29	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	20	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	25	1 Hour	29	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	25	4 Day	1.73	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	30	1 Hour	20	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	30	4 Day	1.23	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	6.5	5	1 Hour	33	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.5	5	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	0	1 Hour	32	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	0	4 Day	3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	10	1 Hour	28	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	10	4 Day	2.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	15	1 Hour	27	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	15	4 Day	2.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	20	1 Hour	27	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	20	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	25	1 Hour	26	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	25	4 Day	1.74	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	30	1 Hour	18.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	30	4 Day	1.23	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	5	1 Hour	30	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	6.75	5	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	0	1 Hour	28	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	0	4 Day	3	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	7	10	1 Hour	25	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	10	4 Day	2.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	15	1 Hour	24	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	15	4 Day	2.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	20	1 Hour	23	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	20	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	25	1 Hour	23	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	25	4 Day	1.74	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	30	1 Hour	16.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	30	4 Day	1.23	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	5	1 Hour	26	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7	5	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	0	1 Hour	23	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	0	4 Day	3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	10	1 Hour	20	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	10	4 Day	2.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	15	1 Hour	19.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	15	4 Day	2.6	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	7.25	20	1 Hour	19.2	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	20	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	25	1 Hour	19	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	25	4 Day	1.75	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	30	1 Hour	13.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	30	4 Day	1.24	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	5	1 Hour	22	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.25	5	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	0	1 Hour	17.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	0	4 Day	3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	10	1 Hour	15.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	10	4 Day	2.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	15	1 Hour	14.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	15	4 Day	2.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	20	1 Hour	14.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	20	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	25	1 Hour	14.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	25	4 Day	1.76	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	7.5	30	1 Hour	13.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	30	4 Day	1.25	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	5	1 Hour	16.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.5	5	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	0	1 Hour	12.2	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	0	4 Day	2.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	10	1 Hour	10.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	10	4 Day	2.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	15	1 Hour	10.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	15	4 Day	2.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	20	1 Hour	10.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	20	4 Day	2.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	25	1 Hour	10.2	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	25	4 Day	1.65	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	30	1 Hour	7.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	30	4 Day	1.18	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	5	1 Hour	11.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	7.75	5	4 Day	2.6	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	8	0	1 Hour	8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	0	4 Day	1.82	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	10	1 Hour	7.1	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	10	4 Day	1.62	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	15	1 Hour	6.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	15	4 Day	1.57	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	20	1 Hour	6.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	20	4 Day	1.55	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	25	1 Hour	6.8	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	25	4 Day	0.1	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	30	1 Hour	4.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	30	4 Day	0.79	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	5	1 Hour	7.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8	5	4 Day	1.7	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	0	1 Hour	4.5	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	0	4 Day	1.03	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	10	1 Hour	4.1	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	10	4 Day	0.93	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	8.25	15	1 Hour	4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	15	4 Day	0.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	20	1 Hour	3.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	20	4 Day	0.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	25	1 Hour	4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	25	4 Day	0.64	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	30	1 Hour	2.9	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	30	4 Day	0.47	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	5	1 Hour	4.2	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.25	5	4 Day	0.97	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	0	1 Hour	2.6	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	0	4 Day	0.58	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	10	1 Hour	2.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	10	4 Day	0.53	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	15	1 Hour	2.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	15	4 Day	0.53	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	20	1 Hour	2.3	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	20	4 Day	0.53	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	8.5	25	1 Hour	2.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	25	4 Day	0.39	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	30	1 Hour	1.81	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	30	4 Day	0.29	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	5	1 Hour	2.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.5	5	4 Day	0.55	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	0	1 Hour	1.47	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	0	4 Day	0.34	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	10	1 Hour	1.37	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	10	4 Day	0.31	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	15	1 Hour	1.38	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	15	4 Day	0.31	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	20	1 Hour	1.42	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	20	4 Day	0.32	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	25	1 Hour	1.52	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	25	4 Day	0.24	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	30	1 Hour	1.18	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	30	4 Day	0.19	mg/L	-	



Warm Freshwater Habitat	Ammonia, Total	8.75	5	1 Hour	1.4	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	8.75	5	4 Day	0.32	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	0	1 Hour	0.86	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	0	4 Day	0.195	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	10	1 Hour	0.83	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	10	4 Day	0.189	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	15	1 Hour	0.86	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	15	4 Day	0.195	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	20	1 Hour	0.91	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	20	4 Day	0.21	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	25	1 Hour	1.01	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	25	4 Day	0.163	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	30	1 Hour	0.82	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	30	4 Day	0.133	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	5	1 Hour	0.83	mg/L	-	
Warm Freshwater Habitat	Ammonia, Total	9	5	4 Day	0.189	mg/L	-	

Bacteria Water Quality Objectives

Beneficial Use	Constituent	Limit	Units	Details	Reference	Comments

Agricultural Supply	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Agricultural Supply	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Cold Freshwater Habitat	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Cold Freshwater Habitat	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Commercial and Sport Fishing	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Commercial and Sport Fishing	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Ground Water Recharge	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Ground Water Recharge	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Municipal and Domestic Supply	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Municipal and Domestic Supply	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Water Contact Recreation	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Water Contact Recreation	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Non-Contact Water	Fecal Coliform	40	Count per 100	Log Mean-10% of		Log mean value. Based on 10 percent of all samples

Recreation			ml	Samples for 30 day		collected during 30-day period.
Non-Contact Water Recreation	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Warm Freshwater Habitat	Fecal Coliform	40	Count per 100 ml	Log Mean-10% of Samples for 30 day		Log mean value. Based on 10 percent of all samples collected during 30-day period.
Warm Freshwater Habitat	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.
Wildlife Habitat	Fecal Coliform	20	Count per 100 ml	Log Mean-5 Samples for 30 day		Log mean valuel. Based on minimum of not less than five samples collected as practical during any 30-day evenly spaced period.

Narrative Water Quality Objectives

Constituent	Description
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.
Dissolved Oxygen	The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation.
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernable at the 10 percent significance level.
Oil and Grease	Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. For natural high quality waters, the concentration of oils, greases, or other film or coat generating substances shall not be altered.
Pesticides	Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.
pH	For all waters of the Region, the pH shall not be depressed below 6.5 nor raised above 8.5.
Radioactivity	Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.
Settleable Materials	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of settlable materials shall not be raised by more than 0.1 milliliter per liter.
Suspended Solids	Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of total suspended materials Shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.
Taste and Odor	Waters Shall not contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. For naturally high quality waters, the taste and odor shall not be altered.
Temperature	The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such an alteration in temperature does not adversely affect the water for beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

Pre and Post Construction Water Balance
Yermo UPRR

Pre Construction

Pervious Area Runoff Coefficient =	0.5	
Impervious Area Runoff Coefficient =	0.95	
Rainfall Intensity (in/hr) =	0.47	
Area Pervious (Acre) =	21.11	
Area Impervious (Acre)=	0.21	
Q =	(.5)(.47)(21.11)+(.95)(.47)(.21)	
Q =	5.05 CFS	

Post Construction

Pervious Area Runoff Coefficient =	0.5	
Impervious Area Runoff Coefficient =	0.95	
Rainfall Intensity (in/hr) =	0.47	
Area Pervious (Acre) =	21.08	
Area Impervious (Acre)=	0.24	
Q =	(.5)(.47)(21.08)+(.95)(.47)(.24)	
Q =	5.06 CFS	

Appendix C.
SWPPP Amendment Certifications

Appendix C. SWPPP Amendment Certifications

SWPPP Amendment No. _____

Project Name: _____

Project Number: _____

Qualified SWPPP Developer's Certification of the

Stormwater Pollution Previention Plan Amendment

"This Stormwater Pollution Prevention Plan and attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Order No. 2009-009-DWQ as amended by 2010-0014-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature	Date
QSD Name	QSD Certificate Number
Title and Affiliation	Telephone
Address	Email

Appendix D.
Submitted Changes to PRDs

Log of Updated PRDs

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in Appendix C. Updated PRDs submitted electronically via SMARTS can be found in this Appendix.

This appendix includes all of the following updated PRDs (check all that apply):

☐ Revised Notice of Intent (NOI);

☐ Revised Site Map;

☐ Revised Risk Assessment;

☐ New landowner's information (name, address, phone number, email address); and

☐ New signed certification statement.

Legally Responsible Person [if organization]

Signature of Authorized Representative | Date

Name of Authorized Representative | Telephone Number

Appendix E.
Construction Schedule

Construction Schedule

Estimate Construction Start:	April 1, 2011
Estimate Construction Finish:	June 30. 2011
Site- Specific training:	March 2011
Install stabilized construction entrance on:	April 1, 2011
Mobilization of equipment and materials to begin on:	April 1, 2011
Store on-site temporary erosion and temporary sediment control BMPs beginning on:	April 1, 2011
Clearing, grubbing:	April 6, 2011
Install temporary concrete washout:	April 4, 2011
Implement final erosion control:	June 30, 2011
Project complete:	June 30, 2011
Remove temporary erosion and sediment control BMPs:	June 30, 2011 (or within 90-days of submittal of NOT)

Appendix F.
Construction Activities, Materials Used and Associated Pollutants

POLLUTANTS ASSOCIATED WITH CONSTRUCTION ACTIVITIES

General Work Activity/ Products With Potential Stormwater Pollutants	Specific Work Activity/Products With Potential Stormwater Pollutants	Pollutant Categories
Adhesives	Adhesives, glues, resins, epoxy synthetics, PVC cement Caulks, sealers, putty, sealing agents and Coal tars (naphtha, pitch)	Oil and Grease, Synthetic Organics[1]
Asphalt paving/curbs	Hot and cold mix asphalt	Oil and Grease
Concrete / Masonry	Cement and brick dust Colored chalks Concrete curing compounds Glazing compounds Surfaces cleaners Saw cut slurries Tile cutting	Metals, Synthetic Organics
Liquid waste	Wash waters Irrigation line testing/flushing	Metals, Synthetic Organics
Painting	Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding	Metals, Synthetic Organics
Plumbing	Solder (lead, tin), flux (zinc chloride), pipe fitting Galvanized metal in nails, fences, and electric wiring	Metals, Synthetic Organics
Removal of existing structures	Demolition of asphalt, concrete, masonry, framing, roofing, metal structures.	Metals, Oil and Grease, Synthetic Organics
Roofing	Flashing Saw cut slurries (tile cutting) Shingle scrap and debris	Metals, Oil and Grease, Synthetic Organics
Sanitary waste	Portable toilets Disturbance of existing sewer lines.	Nutrients
Soil preparation/amendments	Use of soil additives/amendments	Nutrients
Solid waste	Litter, trash and debris Vegetation	Gross Pollutants
Utility line testing and flushing	Hydrostatic test water Pipe flushing	Synthetic Organics
Vehicle and equipment use	Equipment operation Equipment maintenance Equipment washing Equipment fueling	Oil and Grease

1 Synthetic Organics are defined in Table 1.2 of the CASQA *Stormwater BMP Handbook Portal: Construction* as adhesives, cleaners, sealants, solvents, etc. These are generally categorized as VOCs or SVOCs.

Construction Activities and Associated Pollutants			
Phase	Activity	Associated Materials or Pollutants	Pollutant Category[1]
Grading and Land Development			
Streets and Utility Phase			
Vertical Construction Phase			
Landscaping and Site Stabilization Phase			

Appendix G.
CASQA BMP Handbook Fact Sheets

Appendix G

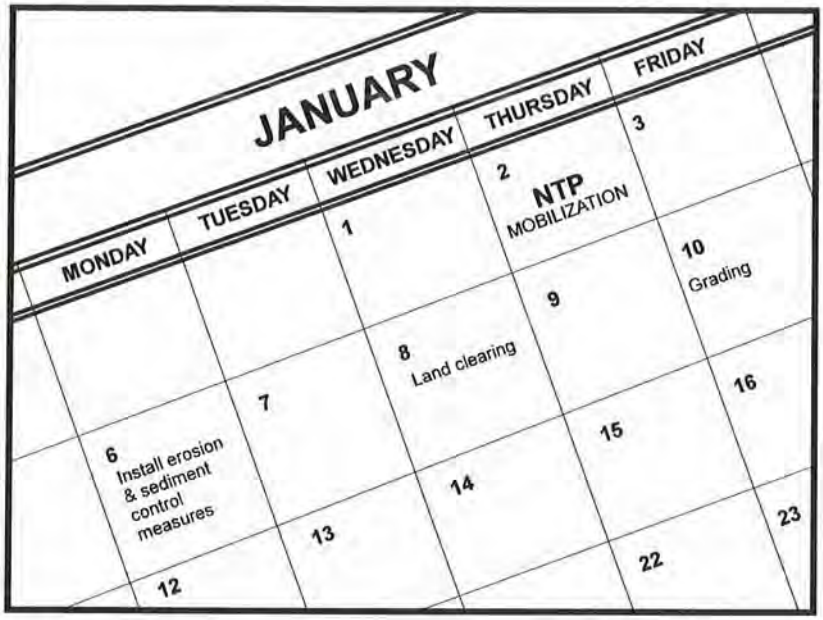
BMP Handbook Fact Sheets

The following is a list of BMP Handbook Fact Sheets that are included within this report.
These Fact Sheets were selected from of the anticipated construction activities for this project.

BMP No.	BMP Description
EROSION CONTROL	
EC-1	SCHEDULING
EC-2	PRESERVATION OF EXISTING VEGETATION
SEDIMENT CONTROL	
SE-1	SILT FENCE
WIND EROSION	
WE-1	WIND EROSION CONTROL
TRACKING CONTROL	
TC-1	STABILIZED CONSTRUCTION ENTRANCE/EXIT
NON-STORMWATER MANAGEMENT CONTROLS	
NS-3	PAVING AND GRINDING OPERATIONS
NS-9	VEHICLE AND EQUIPMENT FUELING
NS-10	VEHICLE AND EQUIPMENT MAINTENANCE
NS-12	CONCRETE CURING
NS-13	CONCRETE FINISHING
WASTE MANAGEMENT AND MATERIAL POLLUTION CONTROL	
WM-1	MATERIAL DELIVERY AND STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL
WM-5	SOLID WASTE MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SANITRY / SEPTIC WASTE MANAGEMENT

Scheduling

EC-1



Categories

EC	Erosion Control	☑
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Scheduling is the development of a written plan that includes sequencing of construction activities and the implementation of BMPs such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Suitable Applications

Proper sequencing of construction activities to reduce erosion potential should be incorporated into the schedule of every construction project especially during rainy season. Use of other, more costly yet less effective, erosion and sediment control BMPs may often be reduced through proper construction sequencing.

Limitations

- Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Implementation

- Avoid rainy periods. Schedule major grading operations during dry months when practical. Allow enough time before rainfall begins to stabilize the soil with vegetation or physical means or to install sediment trapping devices.
- Plan the project and develop a schedule showing each phase

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

of construction. Clearly show how the rainy season relates to soil disturbing and re-stabilization activities. Incorporate the construction schedule into the SWPPP.

- Include on the schedule, details on the rainy season implementation and deployment of:
  - Erosion control BMPs
  - Sediment control BMPs
  - Tracking control BMPs
  - Wind erosion control BMPs
  - Non-stormwater BMPs
  - Waste management and materials pollution control BMPs
- Include dates for activities that may require non-stormwater discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, pavement cleaning, etc.
- Work out the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, foundation pouring utilities installation, etc., to minimize the active construction area during the rainy season.
  - Sequence trenching activities so that most open portions are closed before new trenching begins.
  - Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
  - Schedule establishment of permanent vegetation during appropriate planting time for specified vegetation.
- Non-active areas should be stabilized as soon as practical after the cessation of soil disturbing activities or one day prior to the onset of precipitation.
- Monitor the weather forecast for rainfall.
- When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization and sediment treatment controls on all disturbed areas prior to the onset of rain.
- Be prepared year round to deploy erosion control and sediment control BMPs. Erosion may be caused during dry seasons by un-seasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year round, and retain and maintain rainy season sediment trapping devices in operational condition.
- Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.

Costs

Construction scheduling to reduce erosion may increase other construction costs due to reduced economies of scale in performing site grading. The cost effectiveness of scheduling techniques should be compared with the other less effective erosion and sedimentation controls to achieve a cost effective balance.

Inspection and Maintenance

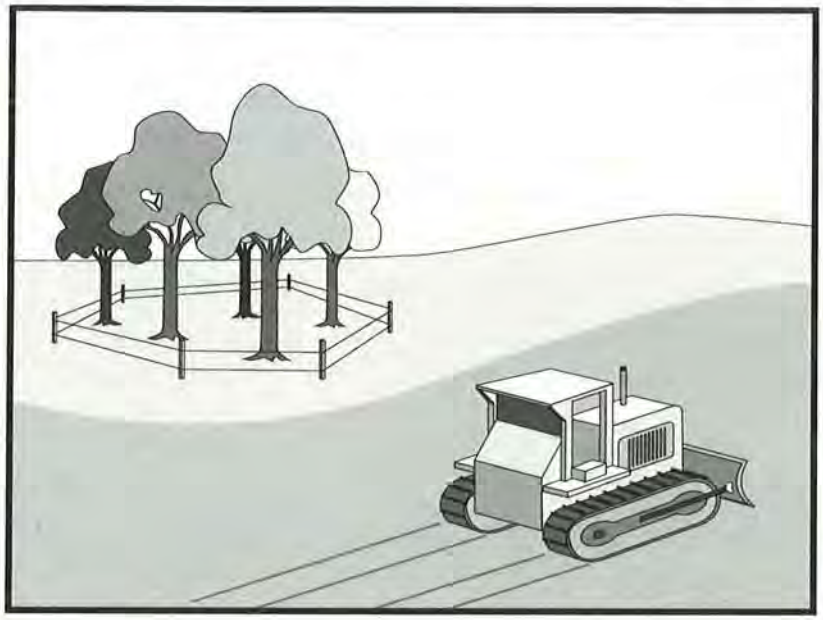
- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
- Amend the schedule when changes are warranted.
- Amend the schedule prior to the rainy season to show updated information on the deployment and implementation of construction site BMPs.

References

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities Developing Pollution Prevention Plans and Best Management Practices (EPA 832-R-92-005), U.S. Environmental Protection Agency, Office of Water, September 1992.

Preservation Of Existing Vegetation EC-2



Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses that protect soil from erosion.

Suitable Applications

Preservation of existing vegetation is suitable for use on most projects. Large project sites often provide the greatest opportunity for use of this BMP. Suitable applications include the following:

- Areas within the site where no construction activity occurs, or occurs at a later date. This BMP is especially suitable to multi year projects where grading can be phased.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc. These areas are usually designated on the plans, or in the specifications, permits, or environmental documents.
- Where vegetation designated for ultimate removal can be temporarily preserved and be utilized for erosion control and sediment control.

Limitations

- Requires forward planning by the owner/developer,

contractor, and design staff.

- Limited opportunities for use when project plans do not incorporate existing vegetation into the site design.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactory for the planned development.

Implementation

The best way to prevent erosion is to not disturb the land. In order to reduce the impacts of new development and redevelopment, projects may be designed to avoid disturbing land in sensitive areas of the site (e.g., natural watercourses, steep slopes), and to incorporate unique or desirable existing vegetation into the site's landscaping plan. Clearly marking and leaving a buffer area around these unique areas during construction will help to preserve these areas as well as take advantage of natural erosion prevention and sediment trapping.

Existing vegetation to be preserved on the site must be protected from mechanical and other injury while the land is being developed. The purpose of protecting existing vegetation is to ensure the survival of desirable vegetation for shade, beautification, and erosion control. Mature vegetation has extensive root systems that help to hold soil in place, thus reducing erosion. In addition, vegetation helps keep soil from drying rapidly and becoming susceptible to erosion. To effectively save existing vegetation, no disturbances of any kind should be allowed within a defined area around the vegetation. For trees, no construction activity should occur within the drip line of the tree.

Timing

- Provide for preservation of existing vegetation prior to the commencement of clearing and grubbing operations or other soil disturbing activities in areas where no construction activity is planned or will occur at a later date.

Design and Layout

- Mark areas to be preserved with temporary fencing. Include sufficient setback to protect roots.
  - Orange colored plastic mesh fencing works well.
  - Use appropriate fence posts and adequate post spacing and depth to completely support the fence in an upright position.
- Locate temporary roadways, stockpiles, and layout areas to avoid stands of trees, shrubs, and grass.
- Consider the impact of grade changes to existing vegetation and the root zone.
- Maintain existing irrigation systems where feasible. Temporary irrigation may be required.
- Instruct employees and subcontractors to honor protective devices. Prohibit heavy equipment, vehicular traffic, or storage of construction materials within the protected area.

Costs

There is little cost associated with preserving existing vegetation if properly planned during the project design, and these costs may be offset by aesthetic benefits that enhance property values. During construction, the cost for preserving existing vegetation will likely be less than the cost of applying erosion and sediment controls to the disturbed area. Replacing vegetation inadvertently destroyed during construction can be extremely expensive, sometimes in excess of $10,000 per tree.

Inspection and Maintenance

During construction, the limits of disturbance should remain clearly marked at all times. Irrigation or maintenance of existing vegetation should be described in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below should be followed:

- Verify that protective measures remain in place. Restore damaged protection measures immediately.
- Serious tree injuries shall be attended to by an arborist.
- Damage to the crown, trunk, or root system of a retained tree shall be repaired immediately.
- Trench as far from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them. When trenching or tunneling near or under trees to be retained, place tunnels at least 18 in. below the ground surface, and not below the tree center to minimize impact on the roots.
- Do not leave tree roots exposed to air. Cover exposed roots with soil as soon as possible. If soil covering is not practical, protect exposed roots with wet burlap or peat moss until the tunnel or trench is ready for backfill.
- Cleanly remove the ends of damaged roots with a smooth cut.
- Fill trenches and tunnels as soon as possible. Careful filling and tamping will eliminate air spaces in the soil, which can damage roots.
- If bark damage occurs, cut back all loosened bark into the undamaged area, with the cut tapered at the top and bottom and drainage provided at the base of the wood. Limit cutting the undamaged area as much as possible.
- Aerate soil that has been compacted over a trees root zone by punching holes 12 in. deep with an iron bar, and moving the bar back and forth until the soil is loosened. Place holes 18 in. apart throughout the area of compacted soil under the tree crown.
- Fertilization
  - Fertilize stressed or damaged broadleaf trees to aid recovery.
  - Fertilize trees in the late fall or early spring.

- Apply fertilizer to the soil over the feeder roots and in accordance with label instructions, but never closer than 3 ft to the trunk. Increase the fertilized area by one-fourth of the crown area for conifers that have extended root systems.

- Retain protective measures until all other construction activity is complete to avoid damage during site cleanup and stabilization.

References

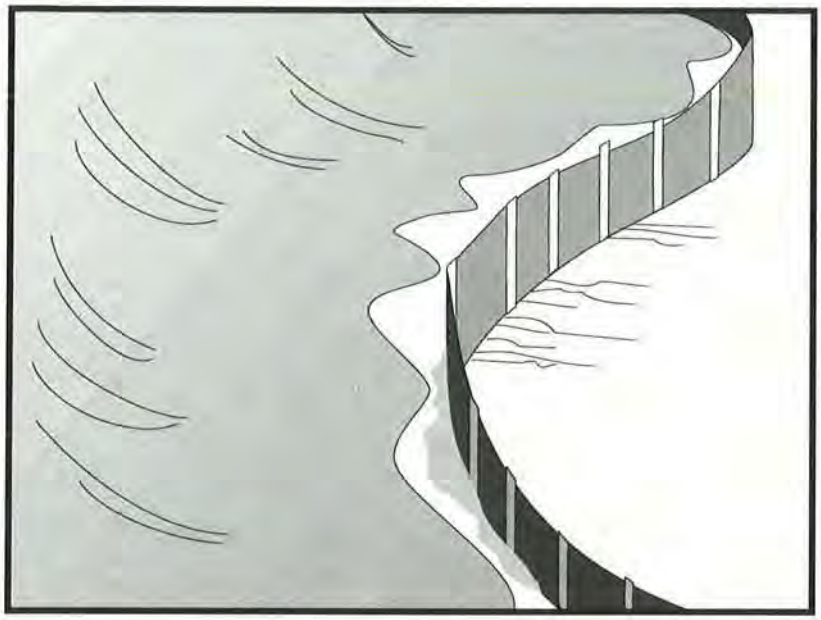
County of Sacramento Tree Preservation Ordinance, September 1981.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Water Quality Management Plan for The Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Silt Fence SE-1



Categories

EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-10 Storm Drain Inlet Protection

SE-14 Biofilter Bags

Description and Purpose

A silt fence is made of a woven geotextile that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence.

Suitable Applications

Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They could also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion and around inlets within disturbed areas (SE-10). Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls. Suitable applications include:

- Along the perimeter of a project.
- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Around inlets.
- Below other small cleared areas.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Limitations

- Do not use in streams, channels, drain inlets, or anywhere flow is concentrated.
- Do not use in locations where ponded water may cause a flooding hazard. Runoff typically ponds temporarily on the upstream side of silt fence.
- Do not use silt fence to divert water flows or place across any contour line. Fences not constructed on a level contour, or fences used to divert flow will concentrate flows resulting in additional erosion and possibly overtopping or failure of the silt fence.
- Improperly installed fences are subject to failure from undercutting, overtopping, or collapsing.
- Not effective unless trenched and keyed in.
- Not intended for use as mid-slope protection on slopes greater than 4:1 (H:V).
- Do not use on slopes subject to creeping, slumping, or landslides.

Implementation

General

A silt fence is a temporary sediment barrier consisting of woven geotextile stretched across and attached to supporting posts, trenched-in, and, depending upon the strength of fabric used, supported with plastic or wire mesh fence. Silt fences trap sediment by intercepting and detaining small amounts of sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence.

The following layout and installation guidance can improve performance and should be followed:

- Use principally in areas where sheet flow occurs.
- Install along a level contour, so water does not pond more than 1.5 ft at any point along the silt fence.
- The maximum length of slope draining to any point along the silt fence should be 200 ft or less.
- The maximum slope perpendicular to the fence line should be 1:1.
- Provide sufficient room for runoff to pond behind the fence and to allow sediment removal equipment to pass between the silt fence and toes of slopes or other obstructions. About 1200 ft^2 of ponding area should be provided for every acre draining to the fence.
- Turn the ends of the filter fence uphill to prevent stormwater from flowing around the fence.
- Leave an undisturbed or stabilized area immediately down slope from the fence where feasible.

- Silt fences should remain in place until the disturbed area is permanently stabilized, after which, the silt fence should be removed and properly disposed.
- Silt fence should be used in combination with erosion source controls up slope in order to provide the most effective sediment control.
- Be aware of local regulations regarding the type and installation requirements of silt fence, which may differ from those presented in this fact sheet.

Design and Layout

The fence should be supported by a plastic or wire mesh if the fabric selected does not have sufficient strength and bursting strength characteristics for the planned application (as recommended by the fabric manufacturer). Woven geotextile material should contain ultraviolet inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 °F to 120 °F.

- Layout in accordance with attached figures.
- For slopes steeper than 2:1 (H:V) and that contain a high number of rocks or large dirt clods that tend to dislodge, it may be necessary to install additional protection immediately adjacent to the bottom of the slope, prior to installing silt fence. Additional protection may be a chain link fence or a cable fence.
- For slopes adjacent to sensitive receiving waters or Environmentally Sensitive Areas (ESAs), silt fence should be used in conjunction with erosion control BMPs.

Standard vs. Heavy Duty Silt Fence

Standard Silt Fence

- Generally applicable in cases where the slope of area draining to the silt fence is 4:1 (H:V) or less.
- Used for shorter durations, typically 5 months or less
- Area draining to fence produces moderate sediment loads.

Heavy Duty Silt Fence

- Use is generally limited to 8 months or less.
- Area draining to fence produces moderate sediment loads.
- Heavy duty silt fence usually has 1 or more of the following characteristics, not possessed by standard silt fence.
  - Fence fabric has higher tensile strength.
  - Fabric is reinforced with wire backing or additional support.
  - Posts are spaced closer than pre-manufactured, standard silt fence products.
  - Posts are metal (steel or aluminum)

Materials

Standard Silt Fence

- Silt fence material should be woven geotextile with a minimum width of 36 in. and a minimum tensile strength of 100 lb force. The fabric should conform to the requirements in ASTM designation D4632 and should have an integral reinforcement layer. The

reinforcement layer should be a polypropylene, or equivalent, net provided by the manufacturer. The permittivity of the fabric should be between 0.1 sec^{-1} and 0.15 sec^{-1} in conformance with the requirements in ASTM designation D4491.

- Wood stakes should be commercial quality lumber of the size and shape shown on the plans. Each stake should be free from decay, splits or cracks longer than the thickness of the stake or other defects that would weaken the stakes and cause the stakes to be structurally unsuitable.
- Staples used to fasten the fence fabric to the stakes should be not less than 1.75 in. long and should be fabricated from 15 gauge or heavier wire. The wire used to fasten the tops of the stakes together when joining two sections of fence should be 9 gauge or heavier wire. Galvanizing of the fastening wire will not be required.

Heavy-Duty Silt Fence

- Some silt fence has a wire backing to provide additional support, and there are products that may use prefabricated plastic holders for the silt fence and use metal posts or bar reinforcement instead of wood stakes. If bar reinforcement is used in lieu of wood stakes, use number four or greater bar. Provide end protection for any exposed bar reinforcement for health and safety purposes.

Installation Guidelines – Traditional Method

Silt fences are to be constructed on a level contour. Sufficient area should exist behind the fence for ponding to occur without flooding or overtopping the fence.

- A trench should be excavated approximately 6 in. wide and 6 in. deep along the line of the proposed silt fence (trenches should not be excavated wider or deeper than necessary for proper silt fence installation).
- Bottom of the silt fence should be keyed-in a minimum of 12 in.
- Posts should be spaced a maximum of 6 ft apart and driven securely into the ground a minimum of 18 in. or 12 in. below the bottom of the trench.
- When standard strength geotextile is used, a plastic or wire mesh support fence should be fastened securely to the upslope side of posts using heavy–duty wire staples at least 1 in. long. The mesh should extend into the trench.
- When extra-strength geotextile and closer post spacing are used, the mesh support fence may be eliminated.
- Woven geotextile should be purchased in a long roll, then cut to the length of the barrier. When joints are necessary, geotextile should be spliced together only at a support post, with a minimum 6 in. overlap and both ends securely fastened to the post.
- The trench should be backfilled with native material and compacted.
- Construct silt fences with a setback of at least 3 ft from the toe of a slope. Where, due to specific site conditions, a 3 ft setback is not available, the silt fence may be constructed at the

toe of the slope, but should be constructed as far from the toe of the slope as practicable. Silt fences close to the toe of the slope will be less effective and more difficult to maintain.

- Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the barrier; in no case should the reach exceed 500 ft.
- Cross barriers should be a minimum of $^1/_3$ and a maximum of ½ the height of the linear barrier.
- See typical installation details at the end of this fact sheet.

Installation Guidelines - Static Slicing Method

- Static Slicing is defined as insertion of a narrow blade pulled behind a tractor, similar to a plow blade, at least 10 inches into the soil while at the same time pulling silt geotextile fabric into the ground through the opening created by the blade to the depth of the blade. Once the gerotextile is installed, the soil is compacted using tractor tires.
- This method will not work with pre-fabricated, wire backed silt fence.
- Benefits:
    - Ease of installation (most often done with a 2 person crew). In addition, installation using static slicing has been found to be more efficient on slopes, in rocky soils, and in saturated soils.
    - Minimal soil disturbance.
    - Greater level of compaction along fence, leading to higher performance (i.e. greater sediment retention).
    - Uniform installation.
    - Less susceptible to undercutting/undermining.

Costs

- It should be noted that costs vary greatly across regions due to available supplies and labor costs.
- Average annual cost for installation using the traditional silt fence installation method (assumes 6 month useful life) is $7 per linear foot based on vendor research. Range of cost is $3.50 - $9.10 per linear foot.
- In tests, the slicing method required 0.33 man hours per 100 linear feet, while the trenched based systems required as much as 1.01 man hours per linear foot.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Repair undercut silt fences.

- Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months.
- Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed, and replaced with new silt fence barriers.
- Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence should be inspected and maintained regularly.
- Remove silt fence when upgradient areas are stabilized. Fill and compact post holes and anchor trench, remove sediment accumulation, grade fence alignment to blend with adjacent ground, and stabilize disturbed area.

References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas, United States Environmental Protection Agency, 2002.

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Work Group-Working Paper, USEPA, April 1992.

Sedimentation and Erosion Control Practices, and Inventory of Current Practices (Draft), UESPA, 1990.

Southeastern Wisconsin Regional Planning Commission (SWRPC). Costs of Urban Nonpoint Source Water Pollution Control Measures. Technical Report No. 31. Southeastern Wisconsin Regional Planning Commission, Waukesha, WI. 1991

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management Manual for The Puget Sound Basin, Washington State Department of Ecology, Public Review Draft, 1991.

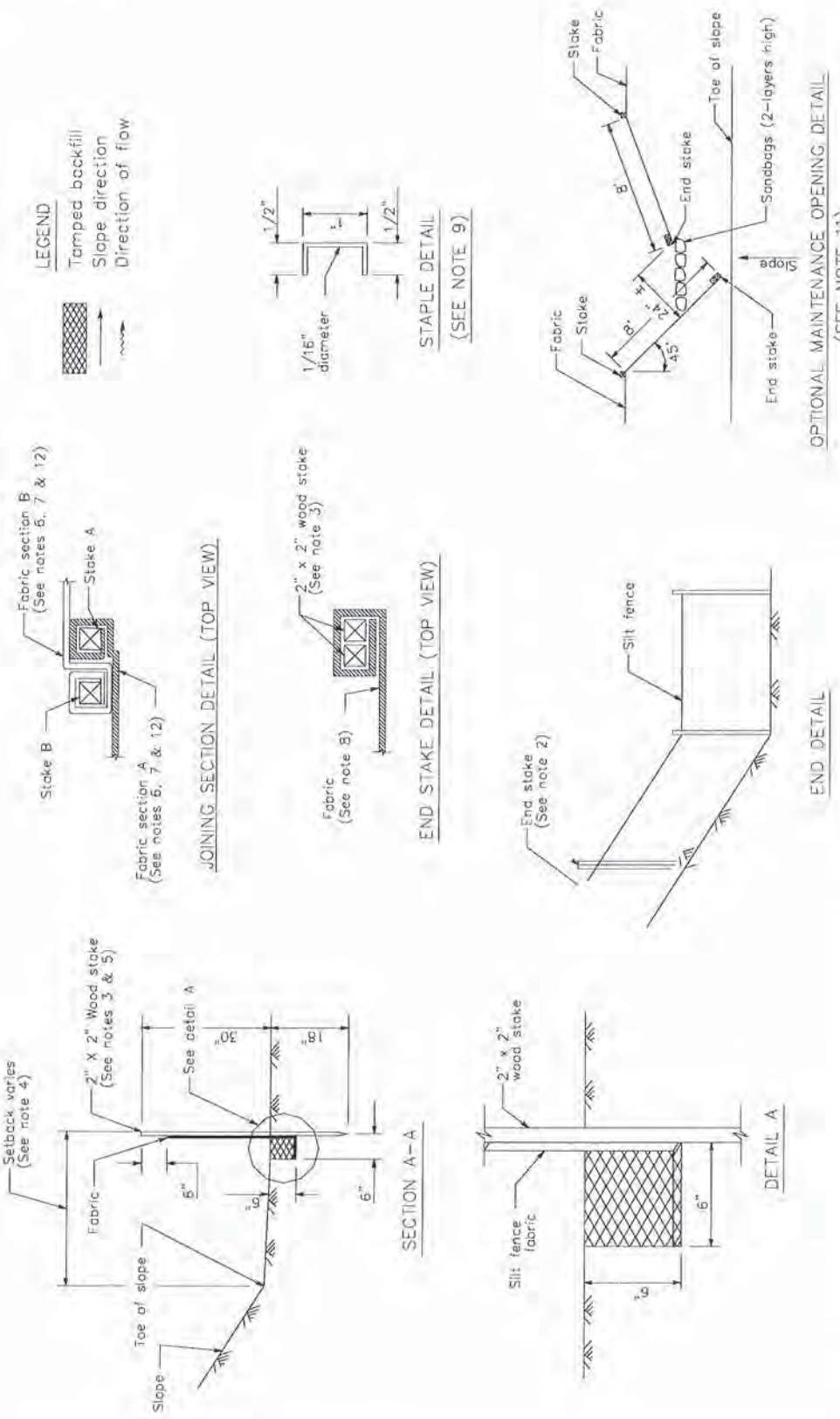
U.S. Environmental Protection Agency (USEPA). Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices. U.S. Environmental Protection Agency, Office of Water, Washington, DC, 1992.

Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.Soil Stabilization BMP Research for Erosion and Sediment Controls: Cost Survey Technical Memorandum, State of California Department of Transportation (Caltrans), July 2007.

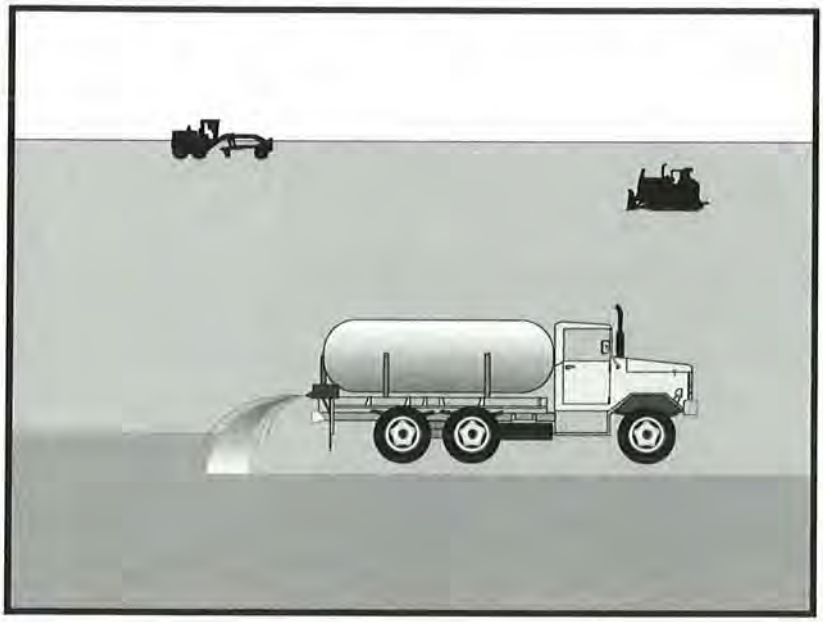
Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

NOTES

1. Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the linear barrier, in no case shall the reach length exceed 500'.
2. The last 8'-0" of fence shall be turned up slope.
3. Stake dimensions are nominal.
4. Dimension may vary to fit field condition.
5. Stakes shall be spaced at 8'-0" maximum and shall be positioned on downstream side of fence.
6. Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.
7. Stakes shall be driven tightly together to prevent potential flow-through of sediment at joint. The tops of the stakes shall be secured with wire.
8. For end stake, fence fabric shall be folded around two stakes are full turn and secured with 4 staples.
9. Minimum 4 staples per stake. Dimensions shown are typical.
10. Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the linear barrier.
11. Maintenance openings shal be constructed in c manner to ensure sediment remains behind silt fence.
12. Joining sections shall not be placed at sump locations.
13. Sandbag rows and layers shall be offset to eliminate gaps.
14. Add 3-4 bags to cross barrier on downgradient side of silt fence as needed to prevent bypass or undermining and as allowable based on site limits of disturbance.


LEGEND
Tamped backfill
Slope direction
Direction of flow
1/2"
1"
1/16" diameter
1/2"
STAPLE DETAIL
(SEE NOTE 9)
Stake
Fabric
Toe of slope
8'
End stake
Sandbags (2-layers high)
Slope
4'
2'
45°
Fabric
Stake
End stake
OPTIONAL MAINTENANCE OPENING DETAIL
(SEE NOTE 11)
Fabric section B
(See notes 6, 7 & 12)
Stake A
Stake B
Fabric section A
(See notes 6, 7 & 12)
JOINING SECTION DETAIL (TOP VIEW)
2" x 2" wood stake
(See note 3)
Fabric
(See note 8)
END STAKE DETAIL (TOP VIEW)
Silt fence
End stake
(See note 2)
END DETAIL
Setback varies
(See note 4)
2" X 2" Wood stake
(See notes 3 & 5)
See detail A
30"
12"
Fabric
6"
12"
6"
Toe of slope
Slope
SECTION A-A
2" x 2"
wood stake
Silt fence
fabric
6"
12"
DETAIL A

Wind Erosion Control WE-1



Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	☑
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-5 Soil Binders

Description and Purpose

Wind erosion or dust control consists of applying water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

California's Mediterranean climate, with a short "wet" season and a typically long, hot "dry" season, allows the soils to thoroughly dry out. During the dry season, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking and dust generated by construction equipment. Site conditions and climate can make dust control more of an erosion problem than water based erosion. Additionally, many local agencies, including Air Quality Management Districts, require dust control and/or dust control permits in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. Wind erosion control is required to be implemented at all construction sites greater than 1 acre by the General Permit.

Suitable Applications

Most BMPs that provide protection against water-based erosion will also protect against wind-based erosion and dust control requirements required by other agencies will generally meet wind erosion control requirements for water quality protection. Wind erosion control BMPs are suitable during the following construction activities:

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

- Construction vehicle traffic on unpaved roads
- Drilling and blasting activities
- Soils and debris storage piles
- Batch drop from front-end loaders
- Areas with unstabilized soil
- Final grading/site stabilization

Limitations

- Watering prevents dust only for a short period (generally less than a few hours) and should be applied daily (or more often) to be effective.
- Over watering may cause erosion and track-out.
- Oil or oil-treated subgrade should not be used for dust control because the oil may migrate into drainageways and/or seep into the soil.
- Chemical dust suppression agents may have potential environmental impacts. Selected chemical dust control agents should be environmentally benign.
- Effectiveness of controls depends on soil, temperature, humidity, wind velocity and traffic.
- Chemical dust suppression agents should not be used within 100 feet of wetlands or water bodies.
- Chemically treated subgrades may make the soil water repellant, interfering with long-term infiltration and the vegetation/re-vegetation of the site. Some chemical dust suppressants may be subject to freezing and may contain solvents and should be handled properly.
- In compacted areas, watering and other liquid dust control measures may wash sediment or other constituents into the drainage system.
- If the soil surface has minimal natural moisture, the affected area may need to be pre-wetted so that chemical dust control agents can uniformly penetrate the soil surface.

Implementation

Dust Control Practices

Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. The following table presents dust control practices that can be applied to varying site conditions that could potentially cause dust. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be employed for areas of occasional or no construction traffic. Preventive measures include minimizing surface areas to be disturbed, limiting onsite vehicle traffic to 15 mph or less, and controlling the number and activity of vehicles on a site at any given time.

Chemical dust suppressants include: mulch and fiber based dust palliatives (e.g. paper mulch with gypsum binder), salts and brines (e.g. calcium chloride, magnesium chloride), non-petroleum based organics (e.g. vegetable oil, lignosulfonate), petroleum based organics (e.g. asphalt emulsion, dust oils, petroleum resins), synthetic polymers (e.g. polyvinyl acetate, vinyls, acrylic), clay additives (e.g. bentonite, montimorillonite) and electrochemical products (e.g. enzymes, ionic products).

Site Condition	Dust Control Practices							
	Permanent Vegetation	Mulching	Wet Suppression (Watering)	Chemical Dust Suppression	Gravel or Asphalt	Temporary Gravel Construction Entrances/Equipment Wash Down	Synthetic Covers	Minimize Extent of Disturbed Area
Disturbed Areas not Subject to Traffic	X	X	X	X	X			X
Disturbed Areas Subject to Traffic			X	X	X	X		X
Material Stockpiles		X	X	X			X	X
Demolition			X			X	X	
Clearing/ Excavation			X	X				X
Truck Traffic on Unpaved Roads			X	X	X	X	X	
Tracking					X	X		

Additional preventive measures include:

- Schedule construction activities to minimize exposed area (see EC-1, Scheduling).
- Quickly treat exposed soils using water, mulching, chemical dust suppressants, or stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Restrict construction traffic to stabilized roadways within the project site, as practicable.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment should be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
- If reclaimed waste water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality

Control Board (RWQCB) requirements. Non-potable water should not be conveyed in tanks or drain pipes that will be used to convey potable water and there should be no connection between potable and non-potable supplies. Non-potable tanks, pipes, and other conveyances should be marked, "NON-POTABLE WATER - DO NOT DRINK."

- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and wheel wash areas.
- Stabilize inactive areas of construction sites using temporary vegetation or chemical stabilization methods.

For chemical stabilization, there are many products available for chemically stabilizing gravel roadways and stockpiles. If chemical stabilization is used, the chemicals should not create any adverse effects on stormwater, plant life, or groundwater and should meet all applicable regulatory requirements.

Costs

Installation costs for water and chemical dust suppression vary based on the method used and the length of effectiveness. Annual costs may be high since some of these measures are effective for only a few hours to a few days.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Check areas protected to ensure coverage.
- Most water-based dust control measures require frequent application, often daily or even multiple times per day. Obtain vendor or independent information on longevity of chemical dust suppressants.

References

Best Management Practices and Erosion Control Manual for Construction Sites, Flood Control District of Maricopa County, Arizona, September 1992.

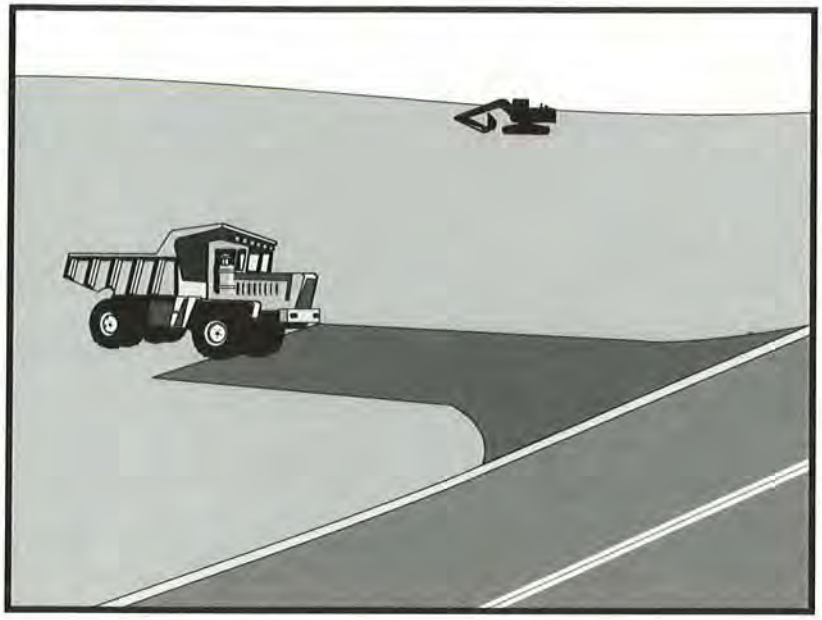
California Air Pollution Control Laws, California Air Resources Board, updated annually.

Construction Manual, Chapter 4, Section 10, "Dust Control"; Section 17, "Watering"; and Section 18, "Dust Palliative", California Department of Transportation (Caltrans), July 2001.

Prospects for Attaining the State Ambient Air Quality Standards for Suspended Particulate Matter (PM10), Visibility Reducing Particles, Sulfates, Lead, and Hydrogen Sulfide, California Air Resources Board, April 1991.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stabilized Construction Entrance/Exit TC-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

runoff.

Implementation

General

A stabilized construction entrance is a pad of aggregate underlain with filter cloth located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights of way or streets. Reducing tracking of sediments and other pollutants onto paved roads helps prevent deposition of sediments into local storm drains and production of airborne dust.

Where traffic will be entering or leaving the construction site, a stabilized construction entrance should be used. NPDES permits require that appropriate measures be implemented to prevent tracking of sediments onto paved roadways, where a significant source of sediments is derived from mud and dirt carried out from unpaved roads and construction sites.

Stabilized construction entrances are moderately effective in removing sediment from equipment leaving a construction site. The entrance should be built on level ground. Advantages of the Stabilized Construction Entrance/Exit is that it does remove some sediment from equipment and serves to channel construction traffic in and out of the site at specified locations. Efficiency is greatly increased when a washing rack is included as part of a stabilized construction entrance/exit.

Design and Layout

- Construct on level ground where possible.
- Select 3 to 6 in. diameter stones.
- Use minimum depth of stones of 12 in. or as recommended by soils engineer.
- Construct length of 50 ft minimum, and 30 ft minimum width.
- Rumble racks constructed of steel panels with ridges and installed in the stabilized entrance/exit will help remove additional sediment and to keep adjacent streets clean.
- Provide ample turning radii as part of the entrance.
- Limit the points of entrance/exit to the construction site.
- Limit speed of vehicles to control dust.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment trapping device before discharge.
- Design stabilized entrance/exit to support heaviest vehicles and equipment that will use it.

Stabilized Construction Entrance/Exit TC-1

- Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on longevity, required performance, and site conditions. Do not use asphalt concrete (AC) grindings for stabilized construction access/roadway.
- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 12 in. depth, or place aggregate to a depth recommended by a geotechnical engineer. A crushed aggregate greater than 3 in. but smaller than 6 in. should be used.
- Designate combination or single purpose entrances and exits to the construction site.
- Require that all employees, subcontractors, and suppliers utilize the stabilized construction access.
- Implement SE-7, Street Sweeping and Vacuuming, as needed.
- All exit locations intended to be used for more than a two-week period should have stabilized construction entrance/exit BMPs.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMPs are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.
- Remove aggregate, separate and dispose of sediment if construction entrance/exit is clogged with sediment.
- Keep all temporary roadway ditches clear.
- Check for damage and repair as needed.
- Replace gravel material when surface voids are visible.
- Remove all sediment deposited on paved roadways within 24 hours.
- Remove gravel and filter fabric at completion of construction

Costs

Average annual cost for installation and maintenance may vary from $1,200 to $4,800 each, averaging $2,400 per entrance. Costs will increase with addition of washing rack, and sediment trap. With wash rack, costs range from $1,200 - $6,000 each, averaging $3,600 per entrance.

References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas, USEPA Agency, 2002.

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Work Group Working Paper, USEPA, April 1992.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

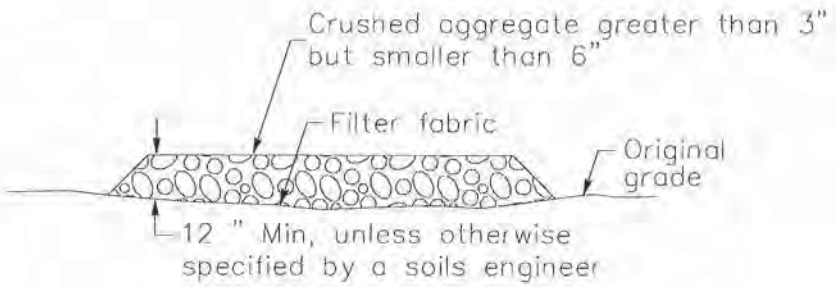
Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Virginia Erosion and Sedimentation Control Handbook, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, 1991.

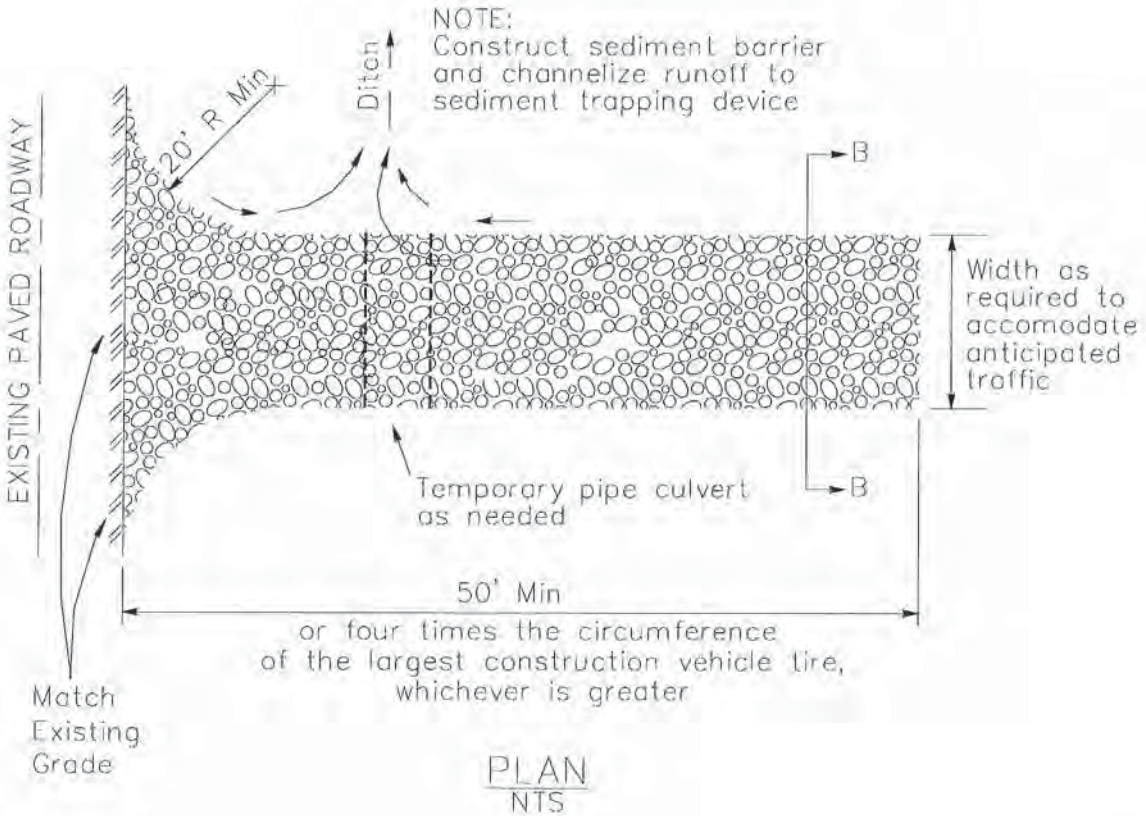
Guidance Specifying Management Measures for Nonpoint Pollution in Coastal Waters, EPA 840-B-9-002, USEPA, Office of Water, Washington, DC, 1993.

Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Stabilized Construction Entrance/Exit TC-1

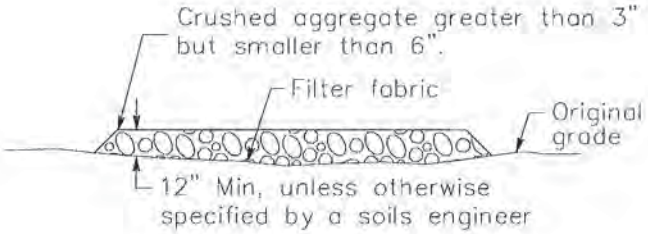


SECTION B–B
NTS

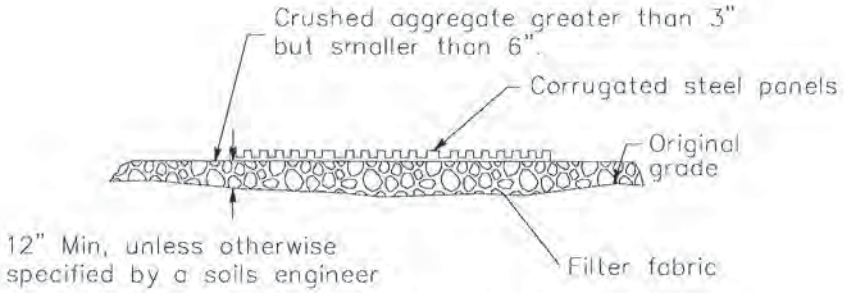


PLAN
NTS

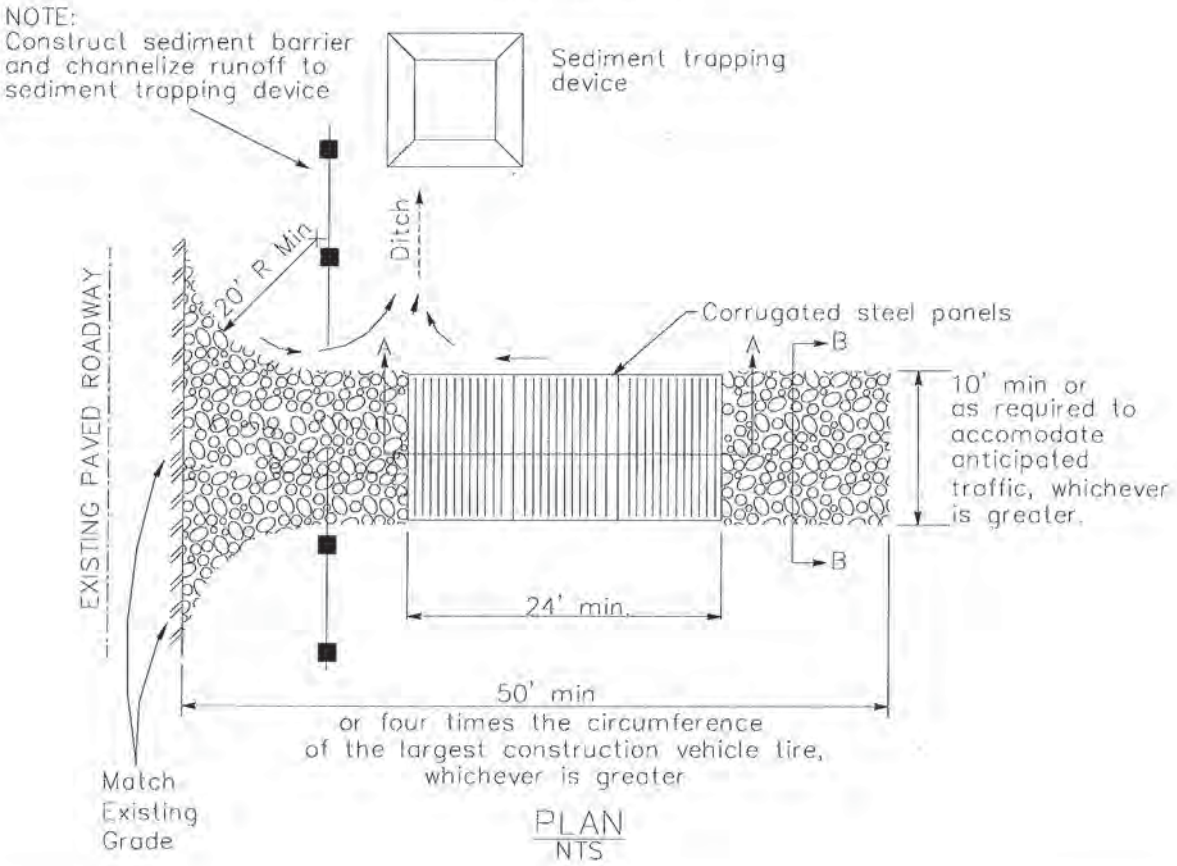
Stabilized Construction Entrance/Exit TC-1



SECTION B–B
NTS

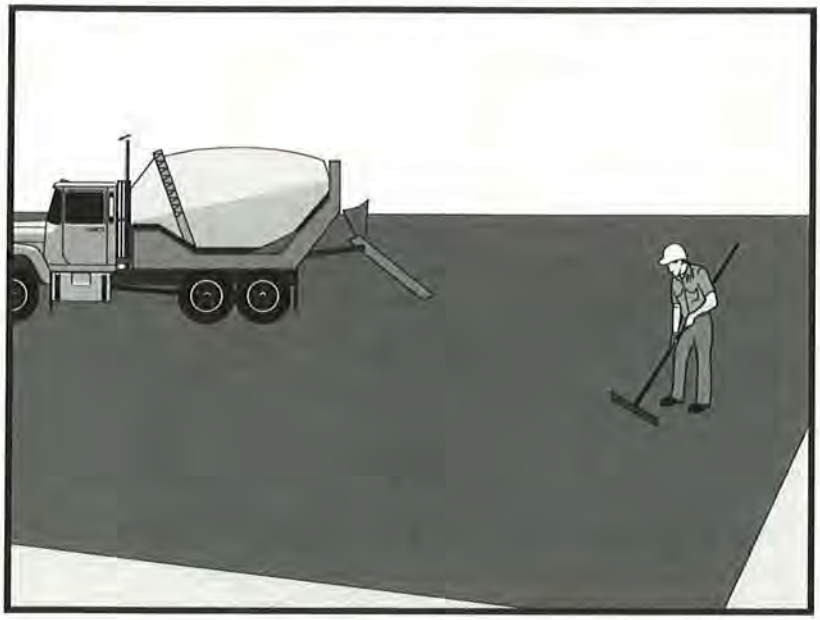


SECTION A–A
NOT TO SCALE



PLAN
NTS

Paving and Grinding Operations NS-3



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☒

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runon and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH and turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures are implemented where paving, surfacing, resurfacing, or sawcutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Limitations

- Paving opportunities may be limited during wet weather.
- Discharges of freshly paved surfaces may raise pH to environmentally harmful levels and trigger permit violations.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Implementation

General

- Avoid paving during the wet season when feasible.
- Reschedule paving and grinding activities if rain is forecasted.
- Train employees and sub-contractors in pollution prevention and reduction.
- Store materials away from drainage courses to prevent stormwater runon (see WM-1, Material Delivery and Storage).
- Protect drainage courses, particularly in areas with a grade, by employing BMPs to divert runoff or to trap and filter sediment.
- Stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses. These materials should be stored consistent with WM-3, Stockpile Management.
- Disposal of PCC (Portland cement concrete) and AC (asphalt concrete) waste should be in conformance with WM-8, Concrete Waste Management.

Saw Cutting, Grinding, and Pavement Removal

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves AC, the following steps should be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
  - AC grindings, pieces, or chunks used in embankments or shoulder backing should not be allowed to enter any storm drains or watercourses. Install inlet protection and perimeter controls until area is stabilized (i.e. cutting, grinding or other removal activities are complete and loose material has been properly removed and disposed of)or permanent controls are in place. Examples of temporary perimeter controls can be found in EC-9, Earth Dikes and Drainage Swales; SE-1, Silt Fence; SE-5, Fiber Rolls, or SE-13 Compost Socks and Berms
  - Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt should be recycled or disposed of properly.
- Do not allow saw-cut slurry to enter storm drains or watercourses. Residue from grinding operations should be picked up by a vacuum attachment to the grinding machine, or by sweeping, should not be allowed to flow across the pavement, and should not be left on the surface of the pavement. See also WM-8, Concrete Waste Management, and WM-10, Liquid Waste Management.
- Pavement removal activities should not be conducted in the rain.
- Collect removed pavement material by mechanical or manual methods. This material may be recycled for use as shoulder backing or base material.

- If removed pavement material cannot be recycled, transport the material back to an approved storage site.

Asphaltic Concrete Paving

- If paving involves asphaltic cement concrete, follow these steps:
  - Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM-5, Solid Waste Management.
  - Old asphalt should be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

Portland Cement Concrete Paving

- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect waste materials by dry methods, such as sweeping or shoveling, and return to aggregate base stockpile or dispose of properly. Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, Concrete Waste Management, or pump the water to the sanitary sewer if authorized by the local wastewater authority.

Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate should not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized (i.e. all sealing operations are complete and cured and loose materials have been properly removed and disposed).
- Inlet protection (SE-10, Storm Drain Inlet Protection) should be used during application of seal coat, tack coat, slurry seal, and fog seal.
- Seal coat, tack coat, slurry seal, or fog seal should not be applied if rainfall is predicted to occur during the application or curing period.

Paving Equipment

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use. Clean up spills with absorbent materials and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control, and WM-10, Liquid Waste Management.
- Substances used to coat asphalt transport trucks and asphalt spreading equipment should not contain soap and should be non-foaming and non-toxic.
- Paving equipment parked onsite should be parked over plastic to prevent soil contamination.
- Clean asphalt coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM-5, Solid Waste Management. Any cleaning onsite should follow NS-8, Vehicle and Equipment Cleaning.

Thermoplastic Striping

- Thermoplastic striper and pre-heater equipment shutoff valves should be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering drain inlets, the stormwater drainage system, or watercourses.
- Pre-heaters should be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move.
- Do not pre-heat, transfer, or load thermoplastic near drain inlets or watercourses.
- Clean truck beds daily of loose debris and melted thermoplastic. When possible, recycle thermoplastic material.

Raised/Recessed Pavement Marker Application and Removal

- Do not transfer or load bituminous material near drain inlets, the stormwater drainage system, or watercourses.
- Melting tanks should be loaded with care and not filled to beyond six inches from the top to leave room for splashing.
- When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- On large-scale projects, use mechanical or manual methods to collect excess bituminous material from the roadway after removal of markers.

Costs

- All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of paving and grinding operations.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Sample stormwater runoff required by the General Permit.
- Keep ample supplies of drip pans or absorbent materials onsite.
- Inspect and maintain machinery regularly to minimize leaks and drips.

References

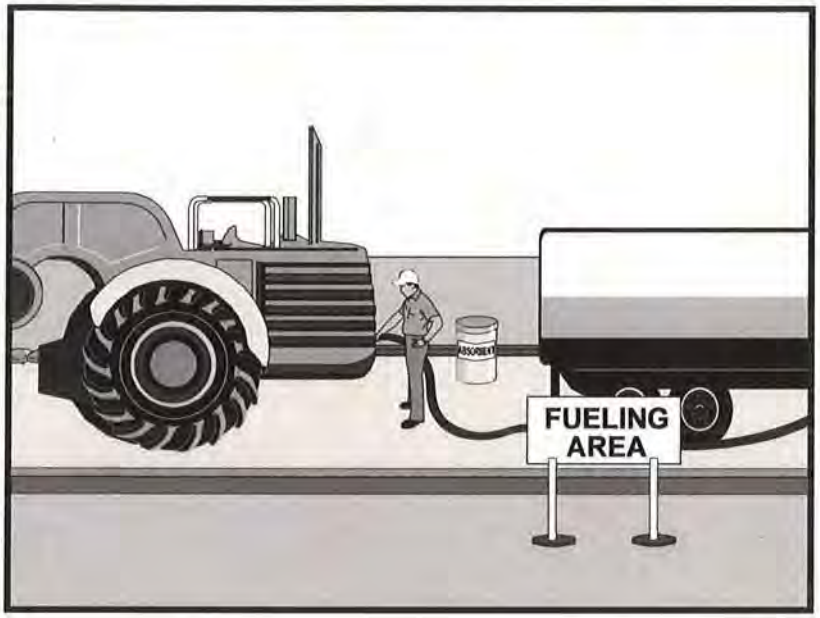
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Hot Mix Asphalt-Paving Handbook AC 150/5370-14, Appendix I, U.S. Army Corps of Engineers, July 1991.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Vehicle and Equipment Fueling NS-9



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment fueling takes place.

Limitations

Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/ Exit.

Implementation

- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage "topping-off" of fuel tanks.
- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

be disposed of properly after use.

- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles should be able to travel to a designated area with little lost time.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas should be identified in the SWPPP.
- Dedicated fueling areas should be protected from stormwater runon and runoff, and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent runon, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management Districts (AQMD).
- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Costs

- All of the above measures are low cost except for the capital costs of above ground tanks that meet all local environmental, zoning, and fire codes.

Inspection and Maintenance

- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

References

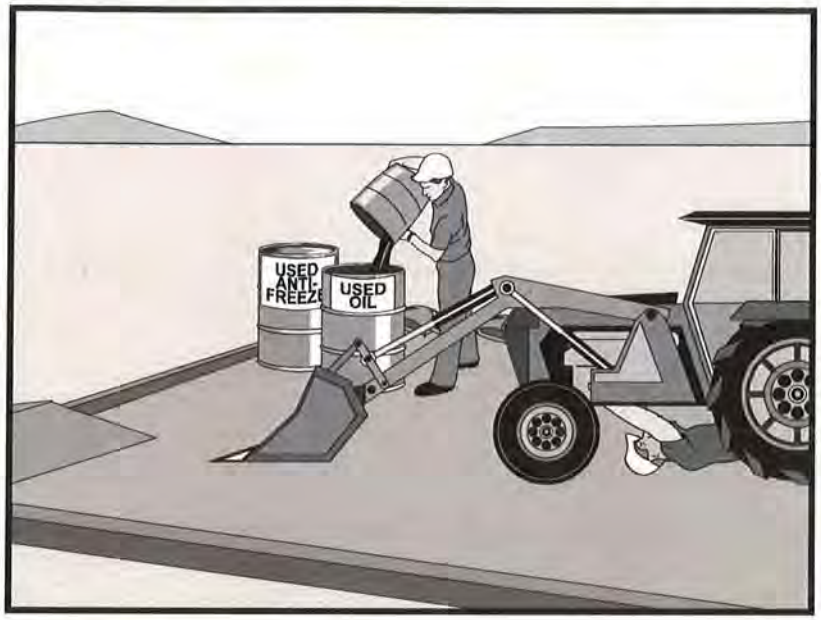
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Vehicle & Equipment Maintenance NS-10



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a "dry and clean site". The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures.

Suitable Applications

These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Outdoor vehicle or equipment maintenance is a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks). For further information on vehicle or equipment servicing, see NS-8, Vehicle and Equipment Cleaning, and NS-9, Vehicle and

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Equipment Fueling.

Implementation

- Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runon and runoff, and should be located at least 50 ft from downstream drainage facilities and watercourses.
- Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
- Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
- Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
- Train employees and subcontractors in proper maintenance and spill cleanup procedures.
- Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
- For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.
- Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose of or recycle used batteries.
- Do not bury used tires.

- Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

Safer Alternative Products

- Consider products that are less toxic or hazardous than regular products. These products are often sold under an "environmentally friendly" label.
- Consider use of grease substitutes for lubrication of truck fifth-wheels. Follow manufacturers label for details on specific uses.
- Consider use of plastic friction plates on truck fifth-wheels in lieu of grease. Follow manufacturers label for details on specific uses.

Waste Reduction

Parts are often cleaned using solvents such as trichloroethylene, trichloroethane, or methylene chloride. Many of these cleaners are listed in California Toxic Rule as priority pollutants. These materials are harmful and must not contaminate stormwater. They must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check the list of active ingredients to see whether it contains chlorinated solvents. The "chlor" term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents to clean parts.

Recycling and Disposal

Separating wastes allows for easier recycling and may reduce disposal costs. Keep hazardous wastes separate, do not mix used oil solvents, and keep chlorinated solvents (like,-trichloroethane) separate from non-chlorinated solvents (like kerosene and mineral spirits). Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around. Provide cover and secondary containment until these materials can be removed from the site.

Oil filters can be recycled. Ask your oil supplier or recycler about recycling oil filters.

Do not dispose of extra paints and coatings by dumping liquid onto the ground or throwing it into dumpsters. Allow coatings to dry or harden before disposal into covered dumpsters.

Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Costs

All of the above are low cost measures. Higher costs are incurred to setup and maintain onsite maintenance areas.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Keep ample supplies of spill cleanup materials onsite.
- Maintain waste fluid containers in leak proof condition.
- Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately or the problem vehicle(s) or equipment should be removed from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

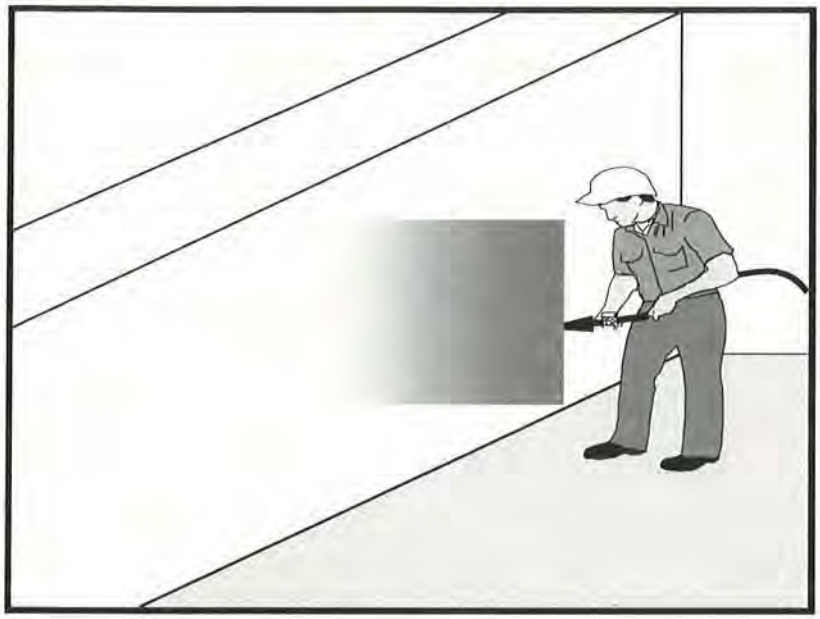
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Coastal Nonpoint Pollution Control Program; Program Development and Approval Guidance, Working Group, Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Concrete Curing NS-12



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

Description and Purpose

Concrete curing is used in the construction of structures such as bridges, retaining walls, pump houses, large slabs, and structured foundations. Concrete curing includes the use of both chemical and water methods.

Concrete and its associated curing materials have basic chemical properties that can raise the pH of water to levels outside of the permitted range. Discharges of stormwater and non-stormwater exposed to concrete during curing may have a high pH and may contain chemicals, metals, and fines. The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Proper procedures and care should be taken when managing concrete curing materials to prevent them from coming into contact with stormwater flows, which could result in a high pH discharge.

Suitable Applications

Suitable applications include all projects where Portland Cement Concrete (PCC) and concrete curing chemicals are placed where they can be exposed to rainfall, runoff from other areas, or where runoff from the PCC will leave the site.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Implementation

Chemical Curing

- Avoid over spray of curing compounds.
- Minimize the drift by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.
- Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, Material Delivery and Storage.
- Protect drain inlets prior to the application of curing compounds.
- Refer to WM-4, Spill Prevention and Control.

Water Curing for Bridge Decks, Retaining Walls, and other Structures

- Direct cure water away from inlets and watercourses to collection areas for evaporation or other means of removal in accordance with all applicable permits. See WM-8 Concrete Waste Management.
- Collect cure water at the top of slopes and transport to a concrete waste management area in a non-erosive manner. See EC-9 Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
- Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.

Education

- Educate employees, subcontractors, and suppliers on proper concrete curing techniques to prevent contact with discharge as described herein.
- Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete curing procedures.

Costs

All of the above measures are generally low cost.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.

- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Sample non-stormwater discharges and stormwater runoff that contacts uncured and partially cured concrete as required by the General Permit.
- Ensure that employees and subcontractors implement appropriate measures for storage, handling, and use of curing compounds.
- Inspect cure containers and spraying equipment for leaks.

References

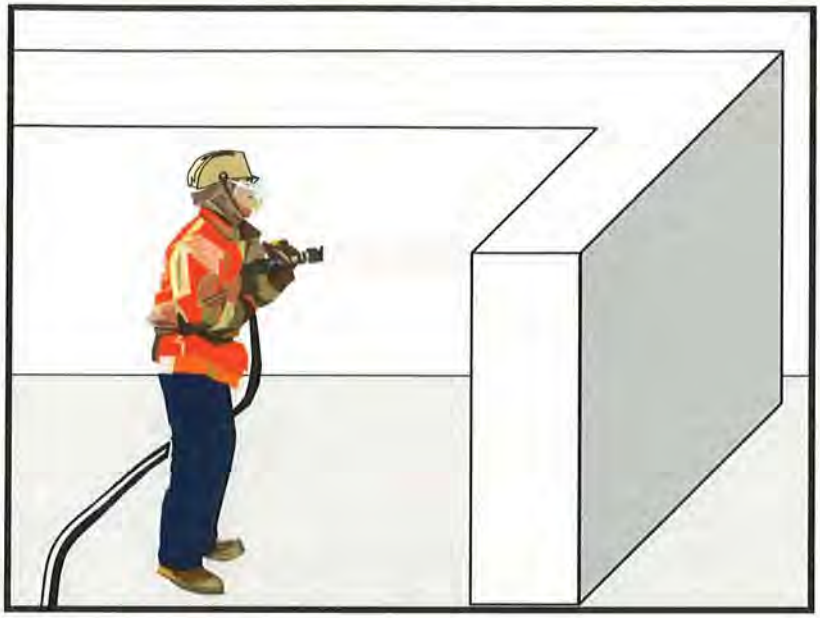
Blue Print for a Clean Bay-Construction-Related Industries: Best Management Practices for Stormwater Pollution Prevention; Santa Clara Valley Non Point Source Pollution Control Program, 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Concrete Finishing NS-13



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	☑

Potential Alternatives

None

Description and Purpose

Concrete finishing methods are used for bridge deck rehabilitation, paint removal, curing compound removal, and final surface finish appearances. Methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Stormwater and non-stormwater exposed to concrete finishing by-products may have a high pH and may contain chemicals, metals, and fines. Proper procedures and implementation of appropriate BMPs can minimize the impact that concrete-finishing methods may have on stormwater and non-stormwater discharges.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Concrete and its associated curing materials have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures apply to all construction locations where concrete finishing operations are performed.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Implementation

- Collect and properly dispose of water from high-pressure water blasting operations.
- Collect contaminated water from blasting operations at the top of slopes. Transport or dispose of contaminated water while using BMPs such as those for erosion control. Refer to EC-9, Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
- Direct water from blasting operations away from inlets and watercourses to collection areas for infiltration or other means of removal (dewatering). Refer to NS-2 Dewatering Operations.
- Protect inlets during sandblasting operations. Refer to SE-10, Storm Drain Inlet Protection.
- Refer to WM-8, Concrete Waste Management for disposal of concrete debris.
- Minimize the drift of dust and blast material as much as possible by keeping the blasting nozzle close to the surface.
- When blast residue contains a potentially hazardous waste, refer to WM-6, Hazardous Waste Management.

Education

- Educate employees, subcontractors, and suppliers on proper concrete finishing techniques to prevent contact with discharge as described herein.
- Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete finishing procedures.

Costs

These measures are generally of low cost.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Sample non-stormwater discharges and stormwater runoff that contacts concrete dust and debris as required by the General Permit.

- Sweep or vacuum up debris from sandblasting at the end of each shift.
- At the end of each work shift, remove and contain liquid and solid waste from containment structures, if any, and from the general work area.
- Inspect containment structures for damage prior to use and prior to onset of forecasted rain.

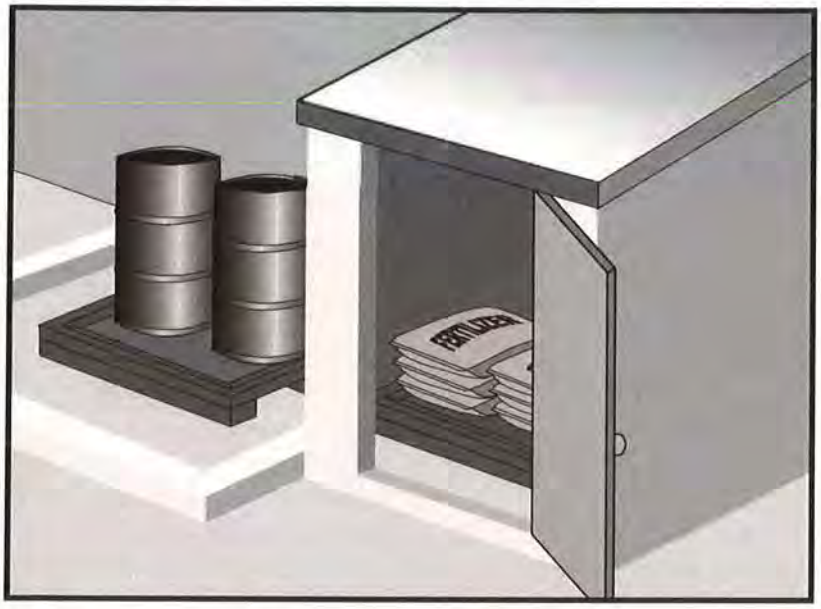
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Material Delivery and Storage WM-1



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

- Asphalt and concrete components
- Hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Concrete compounds
- Other materials that may be detrimental if released to the environment

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds often must meet building and fire code requirements.

Implementation

The following steps should be taken to minimize risk:

- Chemicals must be stored in water tight containers with appropriate secondary containment or in a storage shed.
- When a material storage area is located on bare soil, the area should be lined and bermed.
- Use containment pallets or other practical and available solutions, such as storing materials within newly constructed buildings or garages, to meet material storage requirements.
- Stack erodible landscape material on pallets and cover when not in use.
- Contain all fertilizers and other landscape materials when not in use.
- Temporary storage areas should be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) should be available on-site for all materials stored that have the potential to effect water quality.
- Construction site areas should be designated for material delivery and storage.
- Material delivery and storage areas should be located away from waterways, if possible.
  - Avoid transport near drainage paths or waterways.
  - Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
  - Place in an area that will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of your area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code, NFPA30.
- An up to date inventory of materials delivered and stored onsite should be kept.

- Hazardous materials storage onsite should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that cleanup supplies are in a conspicuous, labeled area.
- Employees and subcontractors should be trained on the proper material delivery and storage practices.
- Employees trained in emergency spill cleanup procedures must be present when dangerous materials or liquid chemicals are unloaded.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil Management. If the area is to be paved, pave as soon as materials are removed to stabilize the soil.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 should be stored in approved containers and drums and should not be overfilled. Containers and drums should be placed in temporary containment facilities for storage.
- A temporary containment facility should provide for a spill containment volume able to contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility should be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility should be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills should be collected and placed into drums. These liquids should be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids should be sent to an approved disposal site.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, should not be stored in the same temporary containment facility.
- Materials should be covered prior to, and during rain events.
- Materials should be stored in their original containers and the original product labels should be maintained in place in a legible condition. Damaged or otherwise illegible labels should be replaced immediately.

- Bagged and boxed materials should be stored on pallets and should not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials should be covered during non-working days and prior to and during rain events.
- Stockpiles should be protected in accordance with WM-3, Stockpile Management.
- Materials should be stored indoors within existing structures or completely enclosed storage sheds when available.
- Proper storage instructions should be posted at all times in an open and conspicuous location.
- An ample supply of appropriate spill clean up material should be kept near storage areas.
- Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.

Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored onsite.
- Arrange for employees trained in emergency spill cleanup procedures to be present when dangerous materials or liquid chemicals are unloaded.

Spill Cleanup

- Contain and clean up any spill immediately.
- Properly remove and dispose of any hazardous materials or contaminated soil if significant residual materials remain on the ground after construction is complete. See WM-7, Contaminated Soil Management.
- See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials.
- If spills or leaks of materials occur that are not contained and could discharge to surface waters, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

Cost

- The largest cost of implementation may be in the construction of a materials storage area that is covered and provides secondary containment.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Keep storage areas clean and well organized, including a current list of all materials onsite.
- Inspect labels on containers for legibility and accuracy.

- Repair or replace perimeter controls, containment structures, covers, and liners as needed to maintain proper function.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

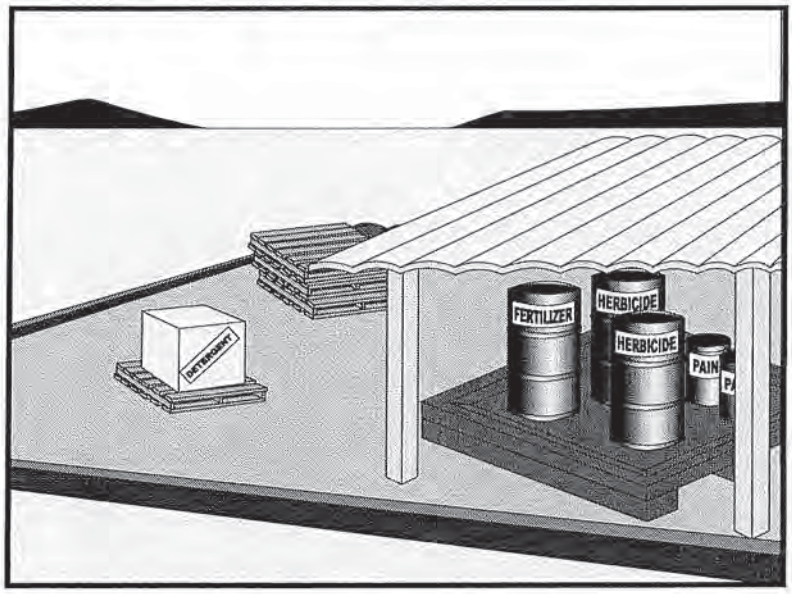
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Material Use

WM-2



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants to the storm drain system or watercourses from material use by using alternative products, minimizing hazardous material use onsite, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for use at all construction projects. These procedures apply when the following materials are used or prepared onsite:

- Pesticides and herbicides
- Fertilizers
- Detergents
- Petroleum products such as fuel, oil, and grease
- Asphalt and other concrete components
- Other hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Other materials that may be detrimental if released to the environment

CASQA
CALIFORNIA STORMWATER

Limitations

Safer alternative building and construction products may not be available or suitable in every instance.

Implementation

The following steps should be taken to minimize risk:

- Minimize use of hazardous materials onsite.
- Follow manufacturer instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- Train personnel who use pesticides. The California Department of Pesticide Regulation and county agricultural commissioners license pesticide dealers, certify pesticide applicators, and conduct onsite inspections.
- The preferred method of termiticide application is soil injection near the existing or proposed structure foundation/slab; however, if not feasible, soil drench application of termiticides should follow EPA label guidelines and the following recommendations (most of which are applicable to most pesticide applications):
  - Do not treat soil that is water-saturated or frozen.
  - Application shall not commence within 24-hours of a predicted precipitation event with a 40% or greater probability. Weather tracking must be performed on a daily basis prior to termiticide application and during the period of termiticide application.
  - Do not allow treatment chemicals to runoff from the target area. Apply proper quantity to prevent excess runoff. Provide containment for and divert stormwater from application areas using berms or diversion ditches during application.
  - Dry season: Do not apply within 10 feet of storm drains. Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds).
  - Wet season: Do not apply within 50 feet of storm drains or aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds) unless a vegetative buffer is present (if so, refer to dry season requirements).
  - Do not make on-grade applications when sustained wind speeds are above 10 mph (at application site) at nozzle end height.
  - Cover treatment site prior to a rain event in order to prevent run-off of the pesticide into non-target areas. The treated area should be limited to a size that can be backfilled and/or covered by the end of the work shift. Backfilling or covering of the treated area shall be done by the end of the same work shift in which the application is made.
  - The applicator must either cover the soil him/herself or provide written notification of the above requirement to the contractor on site and to the person commissioning the

application (if different than the contractor). If notice is provided to the contractor or the person commissioning the application, then they are responsible under the Federal Insecticide Fungicide, and Rodenticide Act (FIFRA) to ensure that: 1) if the concrete slab cannot be poured over the treated soil within 24 hours of application, the treated soil is covered with a waterproof covering (such as polyethylene sheeting), and 2) the treated soil is covered if precipitation is predicted to occur before the concrete slab is scheduled to be poured.

- Do not over-apply fertilizers, herbicides, and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Unless on steep slopes, till fertilizers into the soil rather than hydraulic application. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals before predicted rainfall.
- Train employees and subcontractors in proper material use.
- Supply Material Safety Data Sheets (MSDS) for all materials.
- Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practicable, and rinse to a drain leading to a sanitary sewer where permitted, or contain for proper disposal off site. For oil-based paints, clean brushes to the extent practicable, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials onsite when practical.
- Document the location, time, chemicals applied, and applicator's name and qualifications.
- Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Discontinue use of erodible landscape material within 2 days prior to a forecasted rain event and materials should be covered and/or bermed.

- Provide containment for material use areas such as masons' areas or paint mixing/preparation areas to prevent materials/pollutants from entering stormwater.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Ensure employees and subcontractors throughout the job are using appropriate practices.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

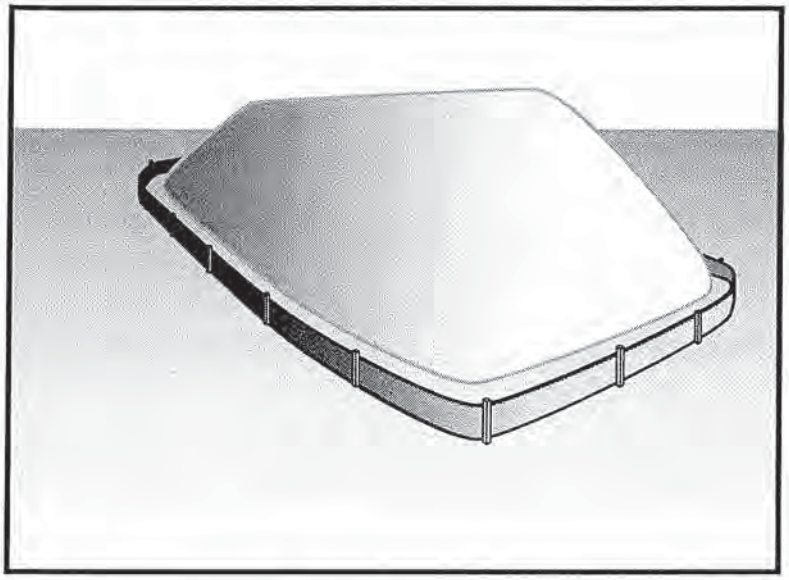
Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance, Working Group Working Paper; USEPA, April 1992.

Comments on Risk Assessments Risk Reduction Options for Cypermethrin: Docket No. OPP–2005–0293; California Stormwater Quality Association (CASQA) letter to USEPA, 2006.Environmental Hazard and General Labeling for Pyrethroid Non-Agricultural Outdoor Products, EPA-HQ-OPP-2008-0331-0021; USEPA, 2008.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Stockpile Management WM-3



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Potential Alternatives

None

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

CASQA
CALIFORNIA STORMWATER

- On larger sites, a minimum of 50 ft separation from concentrated flows of stormwater, drainage courses, and inlets is recommended.
- All stockpiles are required to be protected immediately if they are not scheduled to be used within 14 days.
- Protect all stockpiles from stormwater runon using temporary perimeter sediment barriers such as compost berms (SE-13), temporary silt dikes (SE-12), fiber rolls (SE-5), silt fences (SE-1), sandbags (SE-8), gravel bags (SE-6), or biofilter bags (SE-14). Refer to the individual fact sheet for each of these controls for installation information.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see WE-1, Wind Erosion Control.
- Manage stockpiles of contaminated soil in accordance with WM-7, Contaminated Soil Management.
- Place bagged materials on pallets and under cover.
- Ensure that stockpile coverings are installed securely to protect from wind and rain.
- Some plastic covers withstand weather and sunlight better than others. Select cover materials or methods based on anticipated duration of use.

Protection of Non-Active Stockpiles

Non-active stockpiles of the identified materials should be protected further as follows:

Soil stockpiles

- Soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
- Temporary vegetation should be considered for topsoil piles that will be stockpiled for extended periods.

Stockpiles of Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate sub base

- Stockpiles should be covered and protected with a temporary perimeter sediment barrier at all times.

Stockpiles of "cold mix"

- Cold mix stockpiles should be placed on and covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Stockpiles of fly ash, stucco, hydrated lime

- Stockpiles of materials that may raise the pH of runoff (i.e., basic materials) should be covered with plastic and surrounded by a berm.

Stockpiles/Storage of wood (Pressure treated with chromated copper arsenate or ammoniacal copper zinc arsenate

- Treated wood should be covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Protection of Active Stockpiles

Active stockpiles of the identified materials should be protected as follows:

- All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" and treated wood, and basic materials should be placed on and covered with plastic sheeting or comparable material and surrounded by a berm prior to the onset of precipitation.
- The downstream perimeter of an active stockpile should be protected with a linear sediment barrier or berm and runoff should be diverted around or away from the stockpile on the upstream perimeter.

Costs

For cost information associated with stockpile protection refer to the individual erosion or sediment control BMP fact sheet considered for implementation (For example, refer to SE-1 Silt Fence for installation of silt fence around the perimeter of a stockpile.)

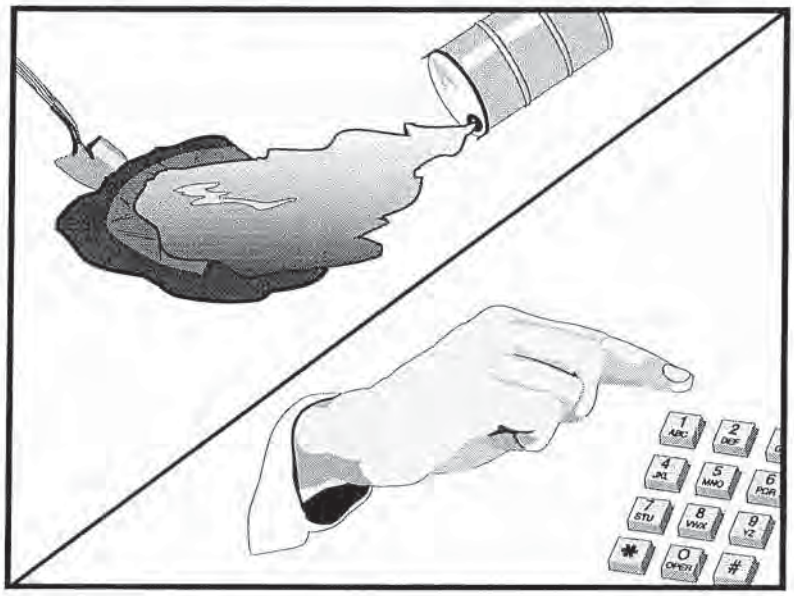
Inspection and Maintenance

- Stockpiles must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- It may be necessary to inspect stockpiles covered with plastic sheeting more frequently during certain conditions (for example, high winds or extreme heat).
- Repair and/or replace perimeter controls and covers as needed to keep them functioning properly.
- Sediment shall be removed when it reaches one-third of the barrier height.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Spill Prevention and Control WM-4



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

This best management practice covers only spill prevention and control. However, WM-1, Materials Delivery and Storage, and WM-2, Material Use, also contain useful information, particularly on spill prevention. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

This BMP is suitable for all construction projects. Spill control procedures are implemented anytime chemicals or hazardous substances are stored on the construction site, including the following materials:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals

CASQA
CALIFORNIA STORMWATER

- Fuels
- Lubricants
- Other petroleum distillates

Limitations

- In some cases it may be necessary to use a private spill cleanup company.
- This BMP applies to spills caused by the contractor and subcontractors.
- Procedures and practices presented in this BMP are general. Contractor should identify appropriate practices for the specific materials used or stored onsite

Implementation

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.

- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with WM-10, Liquid Waste Management.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
  - Contain the spread of the spill.
  - Recover spilled materials.
  - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

- Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

- Spills should be cleaned up immediately:
  - Contain spread of the spill.
  - Notify the project foreman immediately.
  - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
  - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
  - If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps should be taken:
  - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
  - Notify the Governor's Office of Emergency Services Warning Center, (916) 845-8911.
  - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
  - Notification should first be made by telephone and followed up with a written report.
  - The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
  - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, etc.

Reporting

- Report significant spills to local agencies, such as the Fire Department; they can assist in cleanup.
- Federal regulations require that any significant oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hours).

Use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.
- Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- If fueling must occur onsite, use designate areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Costs

Prevention of leaks and spills is inexpensive. Treatment and/ or disposal of contaminated soil or water can be quite expensive.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.

- Keep ample supplies of spill control and cleanup materials onsite, near storage, unloading, and maintenance areas.
- Update your spill prevention and control plan and stock cleanup materials as changes occur in the types of chemicals onsite.

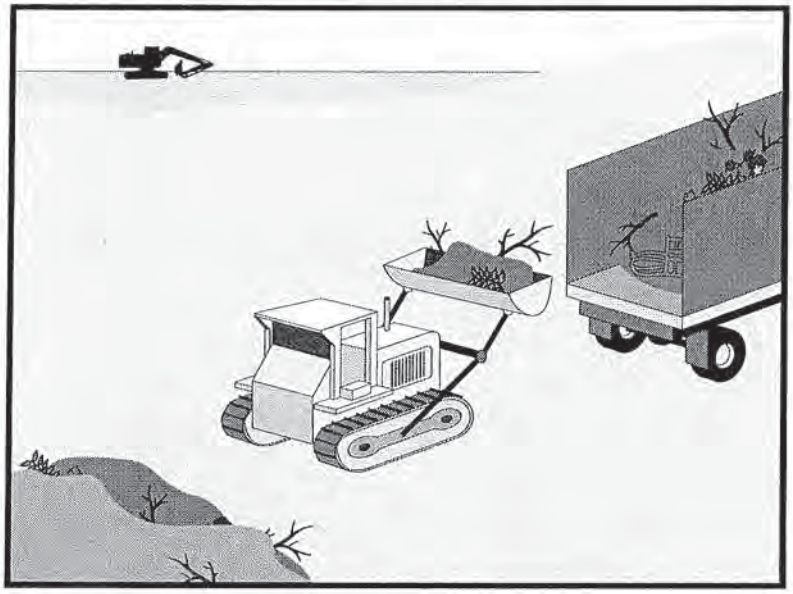
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Solid Waste Management WM-5



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction
- Packaging materials including wood, paper, and plastic
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and masonry products
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials
- Highway planting wastes, including vegetative material,

CASQA
CALIFORNIA STORMWATER

plant containers, and packaging materials

Limitations

Temporary stockpiling of certain construction wastes may not necessitate stringent drainage related controls during the non-rainy season or in desert areas with low rainfall.

Implementation

The following steps will help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use. Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove this solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Education

- Have the contractor's superintendent or representative oversee and enforce proper solid waste management procedures and practices.
- Instruct employees and subcontractors on identification of solid waste and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).

- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Minimize production of solid waste materials wherever possible.

Collection, Storage, and Disposal

- Littering on the project site should be prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines should be a priority.
- Trash receptacles should be provided in the contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Litter from work areas within the construction limits of the project site should be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project.
- Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.
- Construction debris and waste should be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Stormwater runon should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in watertight dumpsters should be securely covered from wind and rain by covering the waste with tarps or plastic.
- Segregate potentially hazardous waste from non-hazardous construction site waste.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- For disposal of hazardous waste, see WM-6, Hazardous Waste Management. Have hazardous waste hauled to an appropriate disposal and/or recycling facility.

- Salvage or recycle useful vegetation debris, packaging and surplus building materials when practical. For example, trees and shrubs from land clearing can be used as a brush barrier, or converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
- Inspect construction waste area regularly.
- Arrange for regular waste collection.

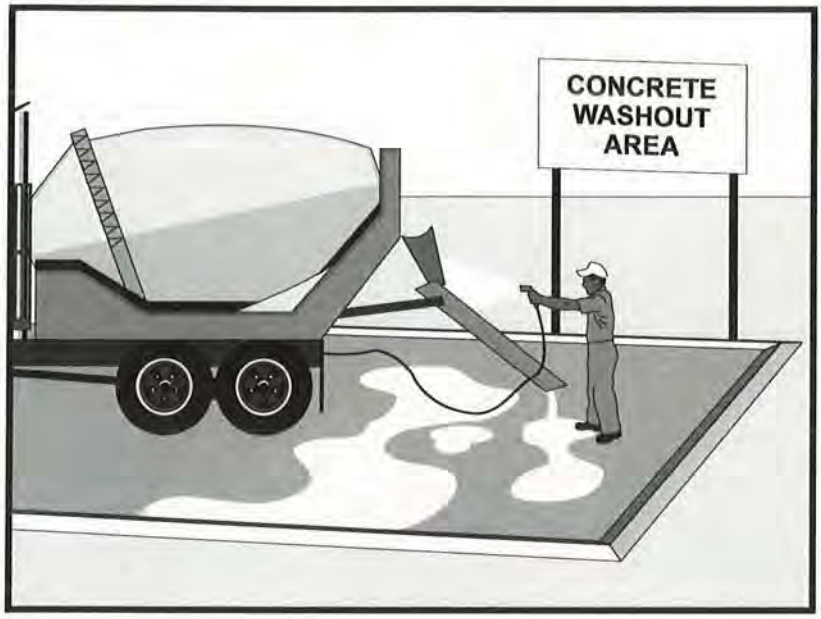
References

Processes, Procedures and Methods to Control Pollution Resulting from All Construction Activity, 430/9-73-007, USEPA, 1973.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Concrete Waste Management WM-8



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

Description and Purpose

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

- Concrete trucks and other concrete-coated equipment are washed onsite.
- Mortar-mixing stations exist.
- Stucco mixing and spraying .
- See also NS-8, Vehicle and Equipment Cleaning.

Limitations

- Offsite washout of concrete wastes may not always be possible.
- Multiple washouts may be needed to assure adequate capacity and to allow for evaporation.

Implementation

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material Delivery and Storage for more information.
- Avoid mixing excess amounts of concrete.
- Perform washout of concrete trucks in designated areas only, where washout will not reach stormwater.
- Do not wash out concrete trucks into storm drains, open ditches, streets, streams or onto the ground. Trucks should always be washed out into designated facilities.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
  - On larger sites, it is recommended to locate washout areas at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
  - Washout wastes into the temporary washout where the concrete can set, be broken up, and then disposed properly.
  - Washout should be lined so there is no discharge into the underlying soil.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.
- See typical concrete washout installation details at the end of this fact sheet.

Education

- Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.

- Arrange for contractor's superintendent or representative to oversee and enforce concrete waste management procedures.
- Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.

Concrete Demolition Wastes

- Stockpile concrete demolition waste in accordance with BMP WM-3, Stockpile Management.
- Dispose of or recycle hardened concrete waste in accordance with applicable federal, state or local regulations.

Concrete Slurry Wastes

- PCC and AC waste should not be allowed to enter storm drains or watercourses.
- PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below).
- A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Saw-cut concrete slurry should not be allowed to enter storm drains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine or by sweeping. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement. See also NS-3, Paving and Grinding Operations; and WM-10, Liquid Waste Management.
- Concrete slurry residue should be disposed in a temporary washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid Waste Management.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout Procedures

- Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

- Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
- Temporary washout facilities should be lined to prevent discharge to the underlying ground or surrounding area.
- Washout of concrete trucks should be performed in designated areas only.
- Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of or recycled offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of or recycle hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)
  - Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft; however, smaller sites or jobs may only need a smaller washout facility. With any washout, always maintain a sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
  - Materials used to construct the washout area should conform to the provisions detailed in their respective BMPs (e.g., SE-8 Sandbag Barrier).
  - Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
  - Alternatively, portable removable containers can be used as above grade concrete washouts. Also called a "roll-off"; this concrete washout facility should be properly sealed to prevent leakage, and should be removed from the site and replaced when the container reaches 75% capacity.
- Temporary Concrete Washout Facility (Type Below Grade)
  - Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
  - Lath and flagging should be commercial type.
  - Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

- The base of a washout facility should be free of rock or debris that may damage a plastic liner.

Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and properly disposed or recycled in accordance with federal, state or local regulations..
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Costs

All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.

Inspection and Maintenance

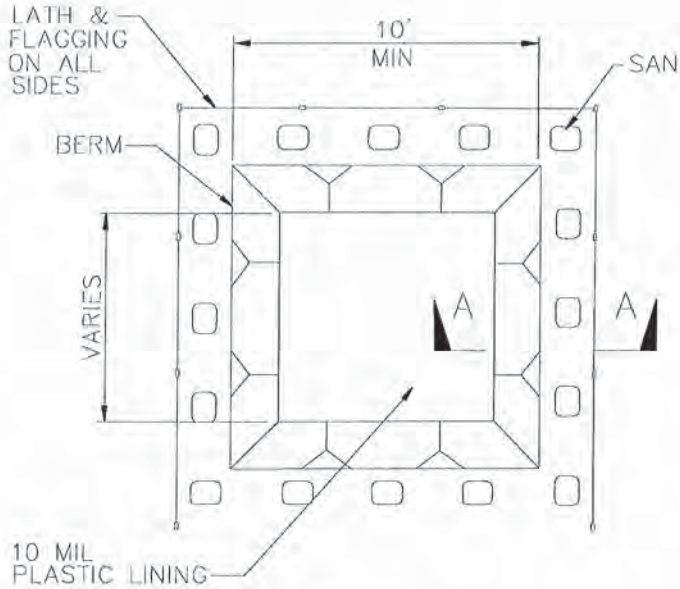
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations.
- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
- Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

References

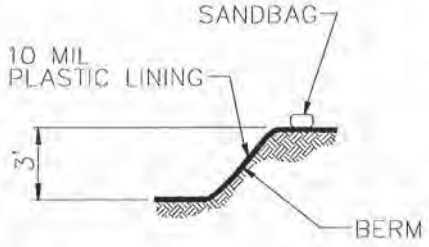
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March 2003.

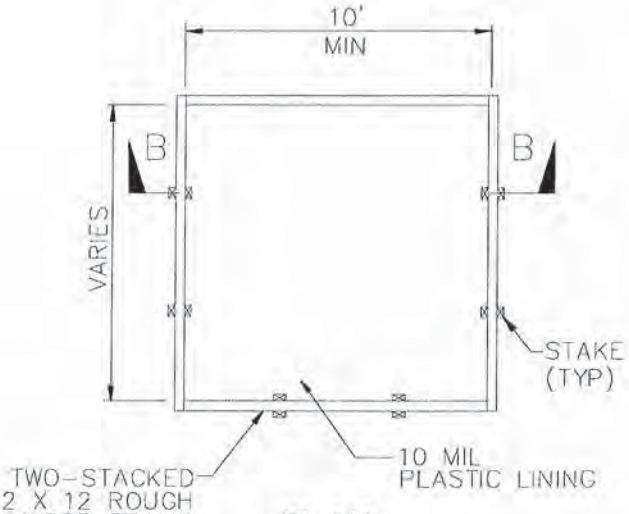
Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.



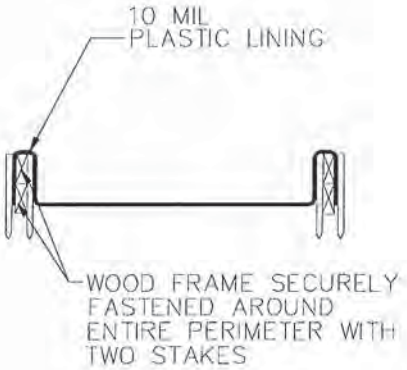
PLAN
NOT TO SCALE
TYPE "BELOW GRADE"



SECTION A–A
NOT TO SCALE



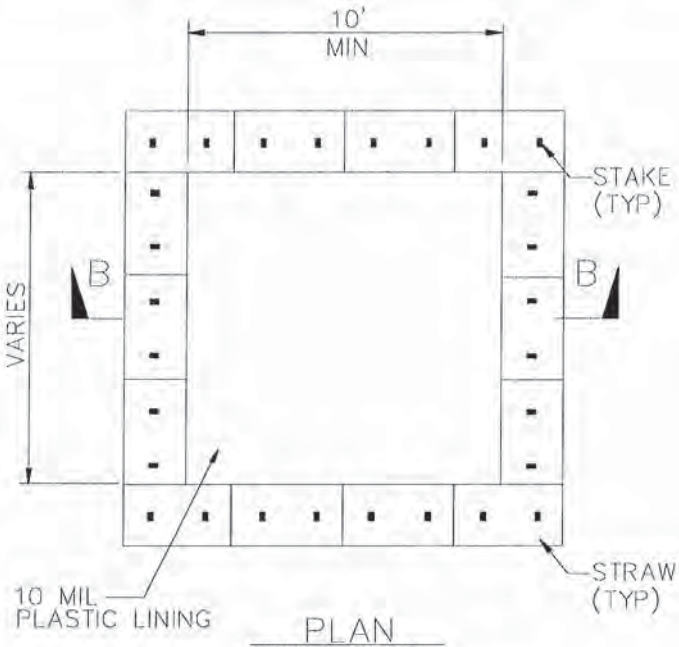
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"



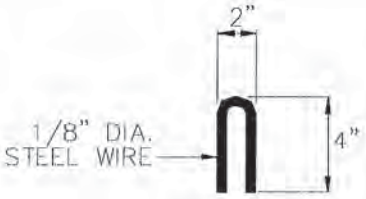
SECTION B–B
NOT TO SCALE

NOTES

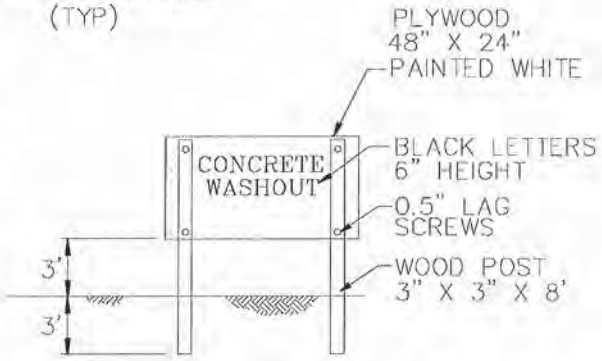
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



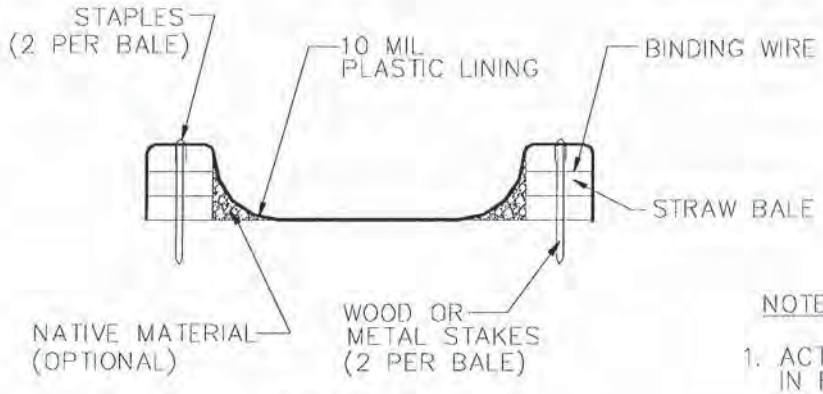
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"
WITH STRAW BALES



STAPLE DETAIL



CONCRETE WASHOUT
SIGN DETAIL
(OR EQUIVALENT)

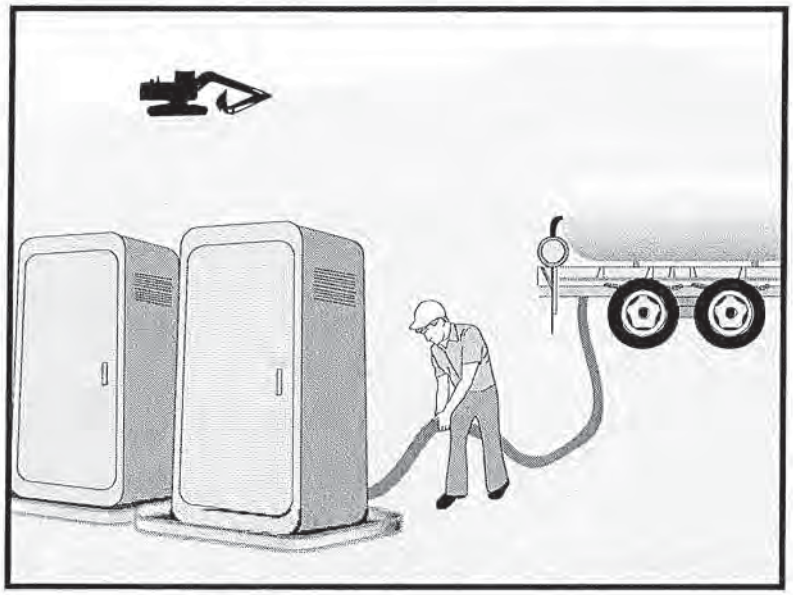


SECTION B-B
NOT TO SCALE

NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

Sanitary/Septic Waste Management WM-9



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	☑
Oil and Grease	
Organics	☑

Potential Alternatives

None

Description and Purpose

Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Suitable Applications

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Limitations

None identified.

Implementation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements. In many cases, one contract with a local facility supplier will be all that it takes to make sure sanitary wastes are properly disposed.

Storage and Disposal Procedures

- Temporary sanitary facilities should be located away from drainage facilities, watercourses, and from traffic circulation. If site conditions allow, place portable facilities a minimum of 50 feet from drainage conveyances and traffic areas. When subjected to high winds or risk of high winds, temporary sanitary facilities should be secured to prevent overturning.

CASQA
CALIFORNIA STORMWATER

- Temporary sanitary facilities must be equipped with containment to prevent discharge of pollutants to the stormwater drainage system of the receiving water.
- Consider safety as well as environmental implications before placing temporary sanitary facilities.
- Wastewater should not be discharged or buried within the project site.
- Sanitary and septic systems that discharge directly into sanitary sewer systems, where permissible, should comply with the local health agency, city, county, and sewer district requirements.
- Only reputable, licensed sanitary and septic waste haulers should be used.
- Sanitary facilities should be located in a convenient location.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- If using an onsite disposal system (OSDS), such as a septic system, local health agency requirements must be followed.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.
- Regular waste collection by a licensed hauler should be arranged before facilities overflow.
- If a spill does occur from a temporary sanitary facility, follow federal, state and local regulations for containment and clean-up.

Education

- Educate employees, subcontractors, and suppliers on sanitary and septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary and septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary and septic waste.
- Hold regular meetings to discuss and reinforce the use of sanitary facilities (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

Costs

All of the above are low cost measures.

Sanitary/Septic Waste Management WM-9

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Arrange for regular waste collection.
- If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning.
- If spills or leaks from sanitary or septic facilities occur that are not contained and discharge from the site, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Appendix H.
BMP Inspection Form

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Storm *Complete Parts I,II,III,IV and VII*	During Rain Event *Complete Parts I, II, III, V, and VII*	Post-Storm *Complete Parts I,II,III,VI and VII*

Part I. General Information

Site Information

Construction Site Name:	
Construction stage and completed activities:	Approximate area of site that is exposed:

Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time)	Estimate storm duration: (hours)
Estimate time since last storm: (days or hours)	Rain gauge reading and location: (in)

Is a "Qualifying Event" predicted or did one occur (i.e., 0.5" rain with 48-hrs or greater between events)? (Y/N)
If yes, summarize forecast:

Exemption Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as flooding or electrical storms.

Inspector Information

Inspector Name:	Inspector Title:
Signature:	Date:

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Failures or other short comings (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)			
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective			
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system			
Portable toilets are contained to prevent discharges of waste			
Sanitation facilities are clean and with no apparent for leaks and spills			
Equipment is in place to cover waste disposal containers at the end of business day and during rain events			
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water			
Stockpiled waste material is securely protected from wind and rain if not actively in use			
Procedures are in place for addressing hazardous and non-hazardous spills			
Appropriate spill response personnel are assigned and trained			
Equipment and materials for cleanup of spills is available onsite			
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil			
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters			
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs			
Vehicle and equipment leaks are cleaned immediately and disposed of properly			

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations			
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled			
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems			
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.			
Erosion Controls			
Wind erosion controls are effectively implemented			
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots			
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.			
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site			
Entrances and exits are stabilized to control erosion and sediment discharges from the site			
Sediment basins are properly maintained			
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.			
Other			

Are the project SWPPP and BMP plan up to date, available on-site and being properly implemented?			

Part III. Descriptions of BMP Deficiencies		
Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1.		
2.		
3.		
4.		

Part IV. Additional Pre-Storm Observations. **Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).**	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During Storm Observations. **If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.**	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-Storm Observations. **Visually observe (inspect) stormwater discharges at all discharge locations within two business days (48 hours) after each qualifying rain event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.**	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. **Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.**	
Required Actions	**Implementation Date**

Appendix I.
Training Reporting Form

Trained Contractor Personnel Log

Stormwater Management Training Log and Documentation

Project Name: _____

WDID #: _____

Stormwater Management Topic: (check as appropriate)

☐ Erosion Control ☐ Sediment Control

☐ Wind Erosion Control ☐ Tracking Control

☐ Non-Stormwater Management ☐ Waste Management and Materials Pollution Control

☐ Stormwater Sampling

Specific Training Objective: _____

Location: _____ Date: _____

Instructor:_____ Telephone: _____

Course Length (hours): _____

Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, credentials for QSP, QSD).

Appendix J.
Responsible Parties

Authorization of Approved Signatories

Project Name: _____

WDID #: _____

Name of Personnel	Project Role	Company	Signature	Date

_____ _____

LRP's Signature Date

_____ _____

LRP Name and Title Telephone

Identification of QSP

Project Name: _____

WDID #: _____

The following are QSPs associated with this project (1):

Name of Personnel	Company	Date

(1) If additional QSPs are required on the job site add additional lines and include information here


CALIFORNIA
Board for Professional
Engineers & Land Surveyors
CIVIL ENGINEER
LICENSE NO.
C 68374
EXPIRATION
9/30/2011
LANCE MARCUS JONES

Appendix K.
Contractors and Sub-contractors

Subcontractor Notification Letter and Notification Log

SWPPP Notification

Company
Address
City, State, ZIP

Dear Sir/Madam,

Please be advised that the California State Water Resources Control Board has adopted the General Permit (General Permit) for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CAS000002). The goal of these permits is prevent the discharge of pollutants associated with construction activity from entering the storm drain system, ground and surface waters.

[Owner] has developed a Storm Water Pollution Prevention Plan (SWPPP) in order to implement the requirements of the Permits.

As a subcontractor, you are required to comply with the SWPPP and the Permits for any work that you perform on site. Any person or group who violates any condition of the Permits may be subject to substantial penalties in accordance with state and federal law. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP and the Permits. A copy of the Permits and the SWPPP are available for your review at the construction office. Please contact me if you have further questions.

Sincerely,

Name
Title

SUBCONTRACTOR NOTIFICATION LOG

Project Name: **Yermo, California Classification Yard**

Project WDID No.: [redacted]

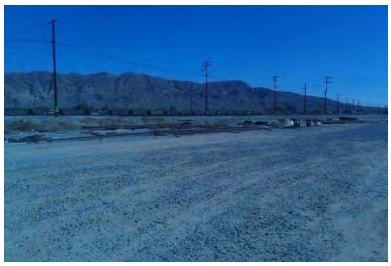
SUBCONTRACTOR COMPANY NAME	CONTACT NAME	ADDRESS	PHONE NUMBER	PAGER/ FIELD PHONE	DATE NOTIFICATION LETTER SENT	TYPE OF WORK

USE ADDITIONAL PAGES AS NECESSARY

Facility: Yermo California Classification Yard, Marine Road, Yermo, CA 92398
Operator: Union Pacific Railroad
WDID: 6B36C360656

	BC-1.jpg Before Construction
	BC-2.jpg Before Construction
	BC-3.jpg Before Construction
	BC-4.jpg Before Construction
	BC-5.jpg Before Construction

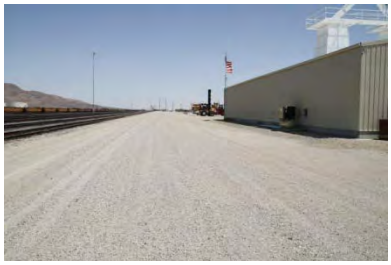
Facility: Yermo California Classification Yard, Marine Road, Yermo, CA 92398
Operator: Union Pacific Railroad
WDID: 6B36C360656

	BC-6.jpg Before Construction
	BC-7.jpg Before Construction
	BC-8.jpg Before Construction
	BC-9.jpg Before Construction
	BC-10.jpg Before Construction
	BC-11.jpg Before Construction

Facility: Yermo California Classification Yard, Marine Road, Yermo, CA 92398
Operator: Union Pacific Railroad
WDID: 6B36C360656

	BC-12.jpg Before Construction
	PC-1.jpg Post Construction
	PC-2.jpg Post Construction
	PC-3.jpg Post Construction
	PC-4.jpg Post Construction
	PC-5.jpg Post Construction

Facility: Yermo California Classification Yard, Marine Road, Yermo, CA 92398
Operator: Union Pacific Railroad
WDID: 6B36C360656

	PC-6.jpg Post Construction
	PC-7.jpg Post Construction
	PC-8.jpg Post Construction
	PC-9.jpg Post Construction
	PC-10.jpg Post Construction
	PC-11.jpg Post Construction

Facility: Yermo California Classification Yard, Marine Road, Yermo, CA 92398
Operator: Union Pacific Railroad
WDID: 6B36C360656

	PC-12.jpg Post Construction
	PC-13.jpg Post Construction
	PC-14.jpg Post Construction
	PC-15.jpg Post Construction

Appendix E

GEOSYNTEC CONSULTANTS
Photographic Record

Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 1

Date: 12/14/2023

Direction: Southeast

Comments:
View of the Subject Property from the northwestern corner.



Photograph 2

Date: 12/14/2023

Direction: East

Comments:
View of the Subject Property along the northern border. A residential structure can be seen in the distance with a fence line that appears to encroach onto the Subject Property.



GEOSYNTEC CONSULTANTS Photographic Record	
Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 3 **Date:** 12/14/2023 **Direction:** Southeast **Comments:** View of the central portion of the Subject Property. In the distance, ASTs located on the eastern Union Pacific Railroad property are visible.	
Photograph 4 **Date:** 12/14/2023 **Direction:** Southwest **Comments:** View of the Subject Property and, in the distance, the USMC Logistics Base.	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 5 **Date:** 12/14/2023 **Direction:** Northwest **Comments:** View of the Subject Property and, in the distance, abandoned structures.	
Photograph 6 **Date:** 12/14/2023 **Direction:** Northeast **Comments:** View of the Subject Property and, in the distance, residential structures that appear to encroach upon the northern boundary of the Subject Property.	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 7 **Date:** 12/14/2023 **Direction:** Southeast **Comments:** View of the adjoining Union Pacific Railroad property and operations south and east of the Subject Property.	
Photograph 8 **Date:** 12/14/2023 **Direction:** South **Comments:** View of the adjoining Union Pacific Railroad tracks south of the Subject Property.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 9 **Date:** 12/14/2023 **Direction:** Northwest **Comments:** View of the Temporary Laydown Yard (operated by Union Pacific Railroad) located on the Subject Property, near the southern border. An out of service AST is visible in the photo.	

Photograph 10 **Date:** 12/14/2023 **Direction:** Northwest **Comments:** View of the Temporary Laydown Yard (operated by Union Pacific Railroad) located on the Subject Property, near the southern border. Materials and heavy machinery are visible.	

GEOSYNTEC CONSULTANTS
Photographic Record

Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 11

Date: 12/14/2023

Direction: Northwest

Comments:
View of western adjoining property (USMC Logistics Base).



Photograph 12

Date: 12/14/2023

Direction: Northwest

Comments:
Abandoned structures to the northwest of the Subject Property



GEOSYNTEC CONSULTANTS
Photographic Record

Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 113 **Date:** 12/14/2023 **Direction:** East **Comments:** Northeastern corner of the Subject Property with a view of the adjoining eastern property.	
Photograph 14 **Date:** 12/14/2023 **Direction:** Southwest **Comments:** View of the Subject Property from the northeastern corner.	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Freepoint Eco-Systems	**Project Number:** SC1427
Site Name: Yermo	**Site Location:** 37265 Yermo Road, Yermo, California

Photograph 15	
Date: 12/14/2023	
Direction: West	
Comments: View of the subject property from the eastern boundary. The Union Pacific Railroad can be seen in the distance.	

APPENDIX E:
Preliminary Drainage Study

DRAFT

Preliminary Drainage Study DRNSTY-2025-00043

Proposed Plastics Sorting and Processing Facility
Yermo, San Bernardino County, California
37265 Yermo Rd, Yermo, CA 92398
APNs: 0537-071-15, 0537-071-16, 0537-071-17, 0537-071-19

San Bernardino County Case #PROJ-2024-00168
Tetra Tech Job #117-367023-24003
June 19, 2025, Revised July 31, 2025

PRESENTED TO

Freepoint Eco-Systems Yermo Supply LLC
58 Commerce Road
Stamford, CT 06902
(203) 542-6293

PRESENTED BY

Tetra Tech
351 Coffman Street
Suite 200
Longmont, CO 80501

(303) 772-5282
tetratech.com

Certification:

7/31/2025

Frederick Lee Charles, P.E.

REGISTERED PROFESSIONAL ENGINEER
FREDERICK LEE CHARLES
C58853
Exp. 6/30/2027
CIVIL
STATE OF CALIFORNIA

County of San Bernardino
Building and Safety
The Plans and Details Have Been
REVIEWED
FOR CODE COMPLIANCE
THE REVIEW OF THESE PLANS SHALL NOT BE CONSTRUCTED TO BE A PERMIT FOR ANY VIOLATION OF ANY CODE OR ORDIANCE OF THIS COUNTY
By Chris Chew
Date 08/06/25
THESE PLANS SHALL BE ON THE JOB FOR ANY REQUESTED INSPECTION

TABLE OF CONTENTS

1.0 INTRODUCTION **1**

2.0 PROJECT DESCRIPTION **1**

2.1 Location 1
2.2 Physical Description 1

3.0 METHODOLOGY **3**

3.1 Drainage Design Criteria 3
3.2 Off-site Drainage 4
3.2.1 Off-Site Drainage Patterns 4
3.2.2 Off-site Drainage Facilities 4
3.3 Project Area Drainage 5
3.3.1 Project Area Drainage Basins and Patterns 5
3.3.2 Project Area Drainage and Retention/Infiltration Facilities 6

4.0 CONCLUSION **8**

5.0 REFERENCES **0**

LIST OF TABLES

Table 1: *Off-Site Drainage Basin Peak Runoff Rates* 4
Table 2: *Project Area Drainage Basins Pre-Development Peak Runoff Rates* 6
Table 3: *Project Area Drainage Basins Proposed/Post-Development Peak Runoff Rates* 6
Table 4: *Project Area Drainage Basins Retention Volume Results* 7

APPENDICES

APPENDIX A—Figures

Figure 1 Vicinity Map
Figure 2 Site Location Map
Figure 3 Off-Site Drainage Plan
Figure 4 Project Area Drainage Plan

APPENDIX B—Site Data

APPENDIX B-1 FEMA Map
APPENDIX B-2 Best Available Map (BAM) from DWR
APPENDIX B-3 Soil Information
APPENDIX B-4 Rainfall Data

APPENDIX C— Calculations

Appendix C-1 Calculations in Excel
Appendix C-2 HEC-HMS

ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
ac	Acre
ac-ft	Acre-Feet
AMC	Antecedent Moisture Condition
APN	Assessor Parcel Number
BAM	Best Available Map
cfs	Cubic Feet per Second
CN	Curve Number
CUP	Conditional Use Permit
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HEC-HMS	Hydrologic Engineering Center-Hydrologic Modeling Software
HSG	Hydrologic Soil Group
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
OS	Off-Site
POA	Point of Analysis
SCS	USDA Soil Conservation Service (now the Natural Resources Conservation Service [NRCS])
USDA	United States Department of Agriculture

1.0 INTRODUCTION

The purpose of this study is to present the preliminary drainage study for the Freepoint Eco-Systems Yermo Supply, LLC (Freepoint Eco-Systems) Plastics Sorting and Processing Facility (the "Project"). This preliminary drainage study is based on the preliminary design for the Project, as directed by the County of San Bernardino. A final drainage study will be completed with the final design (which occurs prior to issuance of the grading permit or initiation of land disturbing activity) for the Project.

Typical development of any site will introduce impervious elements to the drainage basin in which the project is located. (Note that "Project area" and "on-site" terms are used interchangeably in this study.) An increase in impervious surfaces within a drainage basin will generally increase peak stormwater runoff rates and runoff volumes compared with existing conditions. This study examines the flow patterns of the off-site (upgradient) drainage basin, the flow patterns of the undeveloped (pre-development) on-site areas, and the flow patterns following incorporation of the proposed stormwater facilities that have been designed to mitigate the effect of increased stormwater runoff resulting from site development.

This study has been prepared to meet the San Bernardino County drainage requirements and generally follow the *San Bernardino County Hydrology Manual* (1986) and *Addendum* (2010), and the *Detention Basin Design Criteria for San Bernardino County* (1987) – collectively referenced herein as the "County Manual". Calculation methods that differ from the methods discussed in these County documents are discussed as needed.

2.0 PROJECT DESCRIPTION

2.1 LOCATION

The Project is located south of Yermo Road, east of Dusty Trail, and north of the Union Pacific Railroad tracks, in the unincorporated town of Yermo, San Bernardino County, California, and addressed as 37265 Yermo Road. The Project is located in Township 09N, Range 01E, Section 02 of the Yermo U.S. Geological Survey quadrangle (USGS 2021).

The Project sits on a property composed of four (4) existing parcels that are undeveloped desert scrub habitat and are identified as Assessor Parcel Numbers (APNs) 0537-071-15, 16, 17 and 19. As part of the Project, these existing parcels would be reconfigured and a new parcel of approximately 77.57 acres (5.47 acres in existing right-of-way easements and 72.10 acres of developable lot) would be created following purchase of the land by Freepoint Eco-Systems and prior to finalization of a Conditional Use Permit (CUP). West of the Project and within 1,000 feet is the Barstow Marine Corps Logistics Base – Yermo Annex. The property includes half of Dusty Trail, an existing dirt road within a right-of-way easement. The other half of Dusty Trail is owned by the Marine base. To the south of the Project is a Union Pacific railroad switching yard. North of the Project is vacant land. The property adjacent to the Project to the east is predominantly vacant. The southernmost portion of the property (APN 0537-071-19) extends east to the centerline of existing paved Jellico Street, north to the centerline of existing dirt Marine Road, and south to the Union Pacific railroad switching yard. A Vicinity Map is provided in Figure 1 (Appendix A).

2.2 PHYSICAL DESCRIPTION

An aerial image of the Project, including an outline of the Project area boundary, is shown on the Site Location Map provided in Figure 2 (Appendix A). As shown, the Project area is undeveloped with natural grasses, shrubs, and bare soil, with no existing buildings or other structures on site. The Project area consists of undulating topography with a generalized overall slope of less than 1 percent from west to east.

The off-site (upgradient) drainage area that impacts the Project is shown on the Off-site Drainage Plan provided in Figure 3 (Appendix A). The off-site drainage area covers 829 acres.

An outline of the proposed Project improvements is shown on the Project Area Drainage Plan included in Figure 4 (Appendix A). The proposed Project improvements will result in an impermeable area matching the footprint of the buildings and access roads to and around the buildings, with percentages of impermeable areas discussed in Section 3.3 below, under the project area drainage analysis. Portions of the off-site drainage basin include impermeable areas, such as parts of the Marine Corps Logistics Base, as discussed under the off-site drainage analysis in Section 3.2.

The Project is located within the Mojave Watershed which drains to the Mojave River, an intermittent river with its main channel located approximately one mile to the south of the Project. Only a small part of the Mojave Watershed drains through the Project area as discussed below under the off-site drainage analysis. Most of the Mojave Watershed runoff is intercepted by the Yermo Flood Channel (see Appendix B-1 for the FEMA map [FEMA 2008]) which is located approximately 0.5 miles to the north of the Project. Mojave Watershed runoff that is not intercepted by the Yermo Flood Channel flows in an easterly direction between the Yermo Flood Channel and the Union Pacific railroad track embankment. Approximately half of the Mojave Watershed runoff that is not captured by the Yermo Flood Channel flows through the off-site drainage area and affects the Project area. The remaining portion of the Mojave Watershed runoff that is not captured by the Yermo Flood Channel and does not run through the off-site drainage area flows to the north of the Project Area.

The concrete-lined Yermo Flood Channel flows from west to east and was constructed to intercept and convey stormwater runoff originating in the Calico Mountains to the north and east of the Yermo Flood Channel; the outlet of the Yermo Flood Channel discharges toward the Mojave River. Because the Yermo Flood Channel does not affect runoff that passes through the Project area, it is not considered for this preliminary drainage study. Further, the entirety of the Project boundary is located outside of any floodplain boundaries. This is consistent with information presented in the DWR Best Available Map (BAM) (DWR 2025) (see Appendix B-2).

To the south, the Mojave River is separated from the Project area by the topography including the adjacent railroad line. Stormwater runoff from the Project area eventually makes its way to the Mojave River but there is no stream channel for a direct connection between the two; runoff would travel predominantly via overland flow and is not expected to directly affect Mojave River flows, which only occur in response to significant storm events in the larger portion of the watershed that is collected in the Yermo Flood Channel or other upstream areas. The lack of connection between the Project Area and the Mojave River is consistent with the findings of a drainage study that was completed in 2022 for the Yermo Travel Plaza (Drainage Study for Yermo Travel Plaza by LAV//Pinnacle Engineering, Inc., Bakersfield, CA, October 12, 2022), located to the east of the site. No other drainage studies were identified in this area.

According to the Custom Soil Resource Report for San Bernardino County, California, Mojave River Area (NRCS 2025), the soil type that makes up the Project area are Cajon sand (hydrologic soil group [HSG] A), with nearly flat terrain based on site topographic data. The soils that make up the off-site drainage basin include Cajon sand, map units 112 and 113 (HSG A) which covers approximately 83.5% of the drainage basin, Cajon gravelly sand, map unit 115 (HSG A) which covers another 2.5% of the basin, Nebona-cuddeback complex, map unit 151 (HSG D) which covers another 5.5% of the basin, and the Rock outcrop-lithic torriorthents complex, with steep slopes based on site topographic data. Detailed soil survey reports are provided in Appendix B-3.

3.0 METHODOLOGY

3.1 DRAINAGE DESIGN CRITERIA

This study is prepared to meet San Bernardino County drainage requirements and generally follows the County Manual. Calculation methods that differ from the methods in the County Manual, or are more specifically applied, are discussed as needed.

Runoff calculations are summarized below and presented in Appendix C (Appendix C-1 provides calculations prepared in Excel and Appendix C-2 provides HEC-HMS (USACE 2024) input and output). Supporting information will be provided in the final drainage study for the existing off-site, existing on-site, and developed on-site runoff conditions.

Runoff Calculations: Because the off-site drainage basin size of 829 acres is larger than the 640-acre limit for using the Rational Method, the NRCS Curve Number (CN) Method was used in the HEC-HMS Model for stormwater runoff calculations. However, because the on-site drainage basins are much smaller, the Rational Method was applied to calculate peak runoff rates for these basins.

Time of concentration for the off-site basin and individual Project area basins was estimated using physically-based methods to estimate travel times for overland/sheet flow and shallow concentrated flow as these methods were assumed to be reliable for both the off-site and Project area drainage basins (see NRCS National Engineering Handbook [NRCS 2021]).

For storm-event runoff modeling, Antecedent Moisture Condition (AMC) is a factor used to characterize the level of moisture in a soil prior to the start of a significant rainfall event. There are three levels of AMC – AMC I, AMC II, and AMC III – with AMC II representing an average condition. The CN runoff calculations for this preliminary drainage study assume the soils are average in dryness (AMC II) whereas AMC I (which indicates drier than average soils) may be more typical for the high-permeability, very dry and sandy soils in this desert environment. This results in conservative (more protective) calculations which may overestimate the effect of significant rainfall events on the runoff response.

Rainfall Data: Site rainfall depth information was obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 6, Version 2, Precipitation-Frequency Atlas of the United States (NOAA 2014) as well as NOAA's Hydrometeorological Design Studies Center's Precipitation Frequency Data Server. Rainfall data are presented in Appendix B-4.

Within the proposed development, the 100-year storm is used as the major storm event when evaluating existing and proposed drainage facilities. The 100-year storm is used because flooding from a storm of this magnitude could cause considerable damage if adequate stormwater controls were not sized for this magnitude of a storm.

Drainage Channel Sizing and Erosion Protection: Drainage channels will be sized in the final drainage study, after the preliminary drainage study is approved. The design will follow the requirements and guidance in the County Manual.

Retention/Infiltration Facility Sizing: For this preliminary drainage study, the retention/infiltration facility is sized based on the methods provided in the County Manual. Further, the estimated size of the retention/infiltration facility is adjusted to account for infiltration in these high-permeability soils. The final drainage study will include a more detailed infiltration analysis.

3.2 OFF-SITE DRAINAGE

3.2.1 Off-Site Drainage Patterns

The Project is located at a lower elevation and is affected by the off-site drainage basin shown in Figure 3 (Appendix A). Runoff within the off-site basin flows from the west to the east-northeast. Runoff within this basin was analyzed using the CN Method within the HEC-HMS Model; the CN Method was utilized due to the 829-acre size of the drainage basin which is larger than the 640-acre limit for the Rational Method as presented in the County Manual and as described previously. Rainfall depths were selected for a 24-hour storm event for each return interval and a USDA – Soil Conservation Service (SCS) Type II Rainfall Distribution was used to calculate peak runoff rates. Time of Concentration was calculated using methods detailed in the NRCS National Engineering Handbook (NRCS 2021). Due to the length of the watershed, sheet flow was not incorporated into the travel calculations and only shallow concentrated flow was used.

Runoff calculations are summarized below and presented in Appendix C. Table 1 provides the peak runoff rates for the off-site drainage basin. Peak runoff rates for the Project area drainage basins are discussed in Section 3.3, below.

Table 1: *Off-Site Drainage Basin Peak Runoff Rates*

Drainage Basin ID	Area (ac)	Composite Runoff Curve Number (CN) [a]	Time of Concentration (hour)	10-Year Peak Rainfall Depth (inch) [b]	100-Year Peak Rainfall Depth (inch) [b]	10-Year Peak Runoff Rate (cfs) [c]	100-Year Peak Runoff Rate (cfs) [c]
OS-1	829	67.2	3.18	1.47	2.40	3.7	44.5

[a] The following runoff CN values were used to calculate an area-weighted composite off-site CN: CN=46 for Open Brush (HSG A), CN=83 for Open Brush (HSG D), CN=90 for Roadways (HSG A), and CN=90 for Industrial (HSG A).
[b] Rainfall depths for the 10- and 100-year events were selected from NOAA (2014) and represent the total depth for a 24-hour duration event.
[c] Peak runoff rates were calculated using an SCS Type II rainfall distribution.

3.2.2 Off-site Drainage Facilities

Off-site drainage will drain into the Project at the western boundary and is expected to be dispersed along this property boundary as shallow concentrated flow. One culvert is envisioned under Dusty Trail, the north-south road along the western property boundary, to allow off-site runoff to pass into drainage basin B, after which the off-site runoff would flow through drainage basin B, with a portion infiltrating before the remaining stormwater reaches the eastern boundary of drainage basin B. Excess off-site stormwater would then be conveyed off site to the east of the Project to infiltrate within a short distance into the existing sandy soils. Any required drainage facilities will be designed as part of the final drainage study. Due to the nearly flat area that dominates the landscape between the steep terrain on the western edge of the off-site drainage basin and the Project area drainage basins, no erosion control beyond vegetation is proposed to manage the off-site drainage at the western perimeter of the Project area. However, velocities will be evaluated during the final drainage study and appropriate erosion protection will be proposed, if needed.

3.3 PROJECT AREA DRAINAGE

3.3.1 Project Area Drainage Basins and Patterns

Four Project area drainage basins were delineated for the Project based on the plans for site improvements including the footprint for the facility and related access roads (see Figure 4 [Appendix A]). In this Project area, there are a total of three "on-site" drainage basins – B, C, and D. Drainage basin A, while part of the current assessor's parcels, will be excluded from the Project area boundaries after parcel reconfiguration. Therefore, drainage basin A is identified with drainage calculations performed for this preliminary drainage study though this area will be untouched by the proposed development.

The Project area drainage basins will be graded to facilitate drainage from the higher elevations to the lower elevations, which will generally coincide with the highest elevations on the west and the regraded ground surface draining eastward to the eastern property boundaries. However, the actual topographic change through each Project area drainage basin will be minimal. Compacted road base and pavement will be used for the final ground cover where needed to stabilize the site for access by trucks and other vehicles. Runoff calculations for peak runoff rate and retention volume were developed for this preliminary drainage study and are summarized in the following discussion. The calculations are presented in Appendix C.

Two pre-development conditions were evaluated: (1) existing topography and (2) regraded topography (prior to the addition of impervious areas; note that percent pervious values for the evaluated conditions are listed along with other drainage study elements in the summary table [Table 5] of the Conclusion section). One proposed/post-development condition was also evaluated. For each of these conditions, the boundaries of the Project area drainage basins were kept the same to match the parcel boundaries.

The Rational Method was used to calculate the peak runoff rate for the 100-year and 10-year storm events for the pre-development and proposed/post-development conditions, generally following the County Manual guidance with the following exceptions:

- Time of concentration was calculated for each drainage basin using a physically-based approach to delineate topographic-driven drainage paths from highest to lowest elevations, with drainage paths differing for existing and regraded topography but generally going from west to east and around where new facilities would be located; this approach for calculating time of concentration follows the NRCS National Engineering Handbook (NRCS 2021) methods.
- The peak rainfall intensities and depths were selected from NOAA website data which is an updated dataset from what is presented in the County Manual.
- The runoff coefficients (for the Rational Method) were selected from literature values listed in Haan et al. (1994), which presents a collection of hydrology input parameters from various published sources.

The peak runoff rates for the two Project area pre-development conditions are presented in Table 2. Included for the drainage basins are the drainage acreages, results of the time of concentration calculations, and the selected rainfall intensities and runoff coefficients. Note that only one set of results is presented for the two Project area pre-development conditions; this is because the times of concentration for the pre-development existing topography and regraded topography were not substantially different (ranged between 30 and 60 minutes for all pre-development conditions) and 30 minutes was selected for conservatism. Therefore, the storm intensities were the same for all Project drainage basins under pre-development conditions. A runoff coefficient of 0.1 was selected for all pre-development basins, consistent with the coefficient for Unimproved Areas with Flat terrain as listed in the literature referenced above.

Table 2: *Project Area Drainage Basins Pre-Development Peak Runoff Rates*

Basin ID	Area (ac)	Runoff Coefficient	Time of Concentration (minutes) [b]	10-Year Peak Rainfall Intensity (in/hr) [c]	100-Year Peak Rainfall Intensity (in/hr) [c]	10-Year Peak Runoff Rate (cfs)	100-Year Peak Runoff Rate (cfs)
A [a]	7.3	---	---	---	---	---	---
B	29.6	0.1	30 (48.6)	1.11	2.01	3.3	6.0
C	36.1	0.1	30 (58.1)	1.11	2.01	4.0	7.3
D	12.4	0.1	30 (41.2)	1.11	2.01	1.4	2.5

[a] Drainage basin A is within the current assessor's parcels but will be excluded from the Project area boundaries after parcel reconfiguration.
[b] The times of concentration are presented as selected followed by (in parentheses) calculated values (before rounding down to the selected values).
[c] Peak rainfall intensities for the 100- and 10-year events were selected from NOAA (2014).

The peak runoff rates for the Project area proposed/post-development condition are presented in Table 3. Along with the peak runoff rates, this table presents the drainage acreages, results of the time of concentration calculations, and the selected rainfall intensities and runoff coefficients. Note that the runoff coefficients for the proposed/post-development condition were selected from values listed in Haan et al. (1994) and calculated as a composite value for each drainage basin to reflect the mixture of proposed land uses and impervious areas.

Table 3: *Project Area Drainage Basins Proposed/Post-Development Peak Runoff Rates*

Basin ID	Area (ac)	Composite Runoff Coefficient [b]	Time of Concentration (minutes) [c]	10-Year Peak Rainfall Intensity (in/hr) [d]	100-Year Peak Rainfall Intensity (in/hr) [d]	10-Year Peak Runoff Rate (cfs)	100-Year Peak Runoff Rate (cfs)
A [a]	7.3	---	---	---	---	---	---
B	29.6	0.15	30 (48.6)	1.11	2.01	5.0	9.0
C	36.1	0.61	15 (26.4)	1.62	2.93	35.5	64.2
D	12.4	0.17	30 (41.2)	1.11	2.01	2.3	4.1

[a] Drainage basin A is within the current assessor's parcels but will be excluded from the Project area boundaries after parcel reconfiguration.
[b] The following runoff coefficient values were used to calculate an area-weighted composite runoff coefficient for each drainage basin: Coefficient=0.1 for Unimproved Areas on Flat terrain, 0.9 for Pavement and Roofs on Flat terrain.
[c] The times of concentration are presented as selected followed by (in parentheses) calculated values (before rounding down to the selected values).
[d] Peak rainfall intensities for the 100- and 10-year events were selected from NOAA (2014).

3.3.2 Project Area Drainage and Retention/Infiltration Facilities

The required retention/infiltration volume was calculated for each on-site drainage basin, under the pre-development and proposed/post-development conditions, based on the NRCS runoff volume calculation as presented in the County Manual. Results are summarized in Table 4. Based on the current calculations for this preliminary drainage study as summarized below, a total retention volume of 1.65 acre-ft (71,795 cubic ft) will be required for the proposed development in Project area drainage basin C; note that only this basin is assumed to

require retention/infiltration and not drainage basins B and D as these basins are only minimally changed due to the proposed development. Drainage basin A will be untouched by the proposed development. At an assumed infiltration rate of 0.86 inch/hour (based on HSG A, AMC II, and CN of 46 in the pervious area, as presented in the County Manual), for drainage basin C, and a goal to infiltrate the retained stormwater within 72 hours, the total depth that would infiltrate is 5.2 ft resulting in a total required retention/infiltration facility area of 0.32 acre. Based on this required minimum acreage compared with the 1.45-acre area currently outlined (in Figure 4), retention/infiltration can occur completely within the proposed retention/infiltration facility located in the northern portion of drainage basin C (see Figure 4 [Appendix A]).

Table 4: *Project Area Drainage Basins Retention Volume Results*

Basin ID	Area (ac)	Composite Runoff Curve Number [b]	10-Year, 24-Hour Peak Rainfall Depth (inch) [c]	100-Year, 24-Hour Peak Rainfall Depth (inch) [c]	10-Year Runoff Volume (cubic ft)	100-Year Runoff Volume (cubic ft)
Pre-Development Conditions						
A [a]	7.3	---	---	---	---	---
B	29.6	46	1.47	2.40	0	24.8
C	36.1	46	1.47	2.40	0	30.2
D	12.4	46	1.47	2.40	0	10.4
Proposed/Post-Development Conditions						
A [a]	7.3	---	---	---	---	---
B	29.6	48.8	1.47	2.40	0	920
C	36.1	73.9	1.47	2.40	17,736	71,795
D	12.4	49.6	1.47	2.40	0	574

[a] Drainage basin A is within the current assessor's parcels but will be excluded from the Project area boundaries after parcel reconfiguration.
[b] The following runoff Curve Number values were used to calculate an area-weighted composite CN for each drainage basin: CN=46 for Open Brush (HSG A) and CN=90 for Commercial/Industrial Areas.
[c] Rainfall depths for the 100- and 10-year events were selected from NOAA (2014).

The design objective for the retention/infiltration facilities is to not exceed the pre-development peak runoff rates and runoff volumes compared with the proposed/post-development conditions. Additionally, drainage facilities including ditches and culverts will be sized for the final drainage study.

The following bullets summarize the planned drainage and retention/infiltration facilities based on the current site layout and plans:

- Drainage basin A, though excluded from this preliminary drainage study as discussed above, includes the northern portion of the Project site but will remain the same under proposed/post-development conditions as for pre-development conditions, as this drainage basin is separate from the others. Runoff from drainage basin A drains towards the east based on the existing topography.
- Drainage basin B lies immediately to the south of drainage basin A and will remain largely undeveloped and with a similar level of perviousness when comparing the pre- and post-development conditions. A paved, sloped road will be constructed on the perimeter of this drainage basin so that runoff from the road surface will drain into this drainage basin. Due to the site's grade and very dry and sandy soils in this

desert environment, only a minimal amount of runoff would be expected to occur within this drainage basin and runoff within basin B would be expected to infiltrate into the existing soils except for allowing off-site stormwater to pass through this drainage basin, as discussed above.

- Drainage basin C occupies the southernmost portion of the Project site and is where the Plastics Sorting and Processing Facility is planned for construction. This drainage basin will involve the most significant change in drainage, as the impervious area will be significantly increased from the pre-development condition. As noted above, the complete Project area drainage basin C runoff volume can be retained and infiltrated within this drainage basin. Further analysis will be conducted as part of the final drainage study.
- Drainage basin D includes the easternmost portion of the Project site and will remain largely undeveloped and with a similar level of perviousness when comparing the pre- and post-development conditions. A paved, sloped road will be constructed on the northern perimeter of this drainage basin so that runoff from the road surface will drain into this drainage basin. Runoff from basin D drains towards the east based on the existing topography. Due to the site's grade and very dry and sandy soils in this desert environment, only a minimal amount of runoff would be expected to occur within this drainage basin and runoff within basin D would be expected to infiltrate into the existing soils.

4.0 CONCLUSION

This study was prepared to meet San Bernardino County drainage requirements and generally follows the *San Bernardino County Hydrology Manual* (1986) and *Addendum* (2010), and the *Detention Basin Design Criteria for San Bernardino County* (1987). Calculation methods that differ from the methods discussed in these County documents are identified and discussed as needed. A summary of information developed and utilized in the drainage study is presented in Table 5.

The proposed stormwater management (including retention/infiltration) facilities are expected to provide stormwater management at a level that will not increase stormwater to other properties in the area as a result of the proposed development, based on the 100-year storm event. Additionally, the peak runoff rates for the proposed development will be managed by runoff facilities as needed to not increase stormwater to other properties in the area – note that specific measures will be designed and presented in the final drainage study. With these factors considered, the drainage design would be sufficient to protect public health, safety, and general welfare while having no adverse impacts on public rights-of-way.

Table 5: *Summary of Drainage Study Elements*

Basin ID	Node Numbers	Upstream/ Downstream Elevations (ft)	Flow Lengths (ft)	Areas (ac)	Land Usages	Primary Soil Types	% Pervious [b]	Composite Runoff Curve Number [c]	10- and 100-Year Peak Rainfall Intensity (in/hr) [d]
Off-Site									
OS-1	1	2674/1946	18894	829	Commercial/Industrial	Cajon sand	66.7	67.2	-
Pre-Development									
A [a]	-	-	-	-	-	-	-	-	-
B	2	1948/1943	1901	29.6	Undeveloped	Cajon sand	100	46	1.11 and 2.01
C	3	1950/1947	2306	36.1	Undeveloped	Cajon sand	100	46	1.11 and 2.01
D	4	1948/1941	1743	12.4	Undeveloped	Cajon sand	100	46	1.11 and 2.01
Proposed/Post-Development									
A [a]	-	-	-	-	-	-	-	-	-
B	2	1948/1943	1901	29.6	Undeveloped	Cajon sand	93.6	48.8	1.11 and 2.01
C	3	1955/1947	2235	36.1	Commercial/Industrial	Cajon sand	36.6	73.9	1.62 and 2.93
D	4	1948/1941	1743	12.4	Undeveloped	Cajon sand	91.9	49.6	1.11 and 2.01

[a] Drainage basin A is within the current assessor's parcels but will be excluded from the Project area boundaries after parcel reconfiguration.
[b] Undeveloped areas are assumed to be 100% pervious whereas commercial/industrial areas are assumed to be 0% pervious.
[c] The following runoff Curve Number values were used to calculate an area-weighted composite CN for each drainage basin: CN=46 for Open Brush (HSG A) and CN=90 for Commercial/Industrial Areas.
[d] Rainfall intensities for the 100- and 10-year events were selected from NOAA (2014).

5.0 REFERENCES

DWR (California Department of Water Resources). 2025. Best Available Map (BAM). Accessed online in May 2025.

FEMA (Federal Emergency Management Agency). 2008. Flood Insurance Rate Map, San Bernardino County, CO, Panel 3975 of 9400, Map Number 06071C3975H. Revised August 28.

Haan, C.T., B.J. Barfield and J.C. Hayes. 1994. Design Hydrology and Sedimentology for Small Catchments. Academy Press. July.

NOAA (U.S. Department of Commerce, National Oceanic and Atmospheric Administration). 2014. NOAA Atlas 14, Volume 6, Precipitation-Frequency Atlas of the United States.

NRCS (USDA National Resources Conservation Service). 2021. Parts 630 and 650 – National Engineering Handbook. February.

NRCS. 2025. Custom Soil Resource Report for San Bernardino County, California, Mojave River Area. Accessed online in May 2025.

San Bernardino County. 1986. County of San Bernardino Hydrology Manual, Temporary Copy. Prepared by Williamson and Schmid, Civil Engineers, Irvine, California. August.

San Bernardino County. 1987. County of San Bernardino Hydrology Manual, Detention Basin Design Criteria for San Bernardino County, Review Comments. September.

San Bernardino County, Department of Public Works. 2010. County of San Bernardino Hydrology Manual, Addendum. April.

USACE (U.S. Army Corps of Engineers). 2024. Hydrologic Engineering Center-Hydrologic Modeling Software, Version 4.12. May.

USGS (U.S. Geological Survey). 2021. Yermo U.S. Geological Survey quadrangle (map).

Appendix A - Figures





0 25000' 50000'

SCALE: 1" = 50000'

N

TETRA TECH

www.tetratech.com

351 Coffman Street, Suite 200
Longmont, CO 80501
Phone: +1 (303) 772-5282

Freepoint Eco-Systems Yermo Supply LLC

Plastics Sorting and Processing Facility

VICINITY MAP

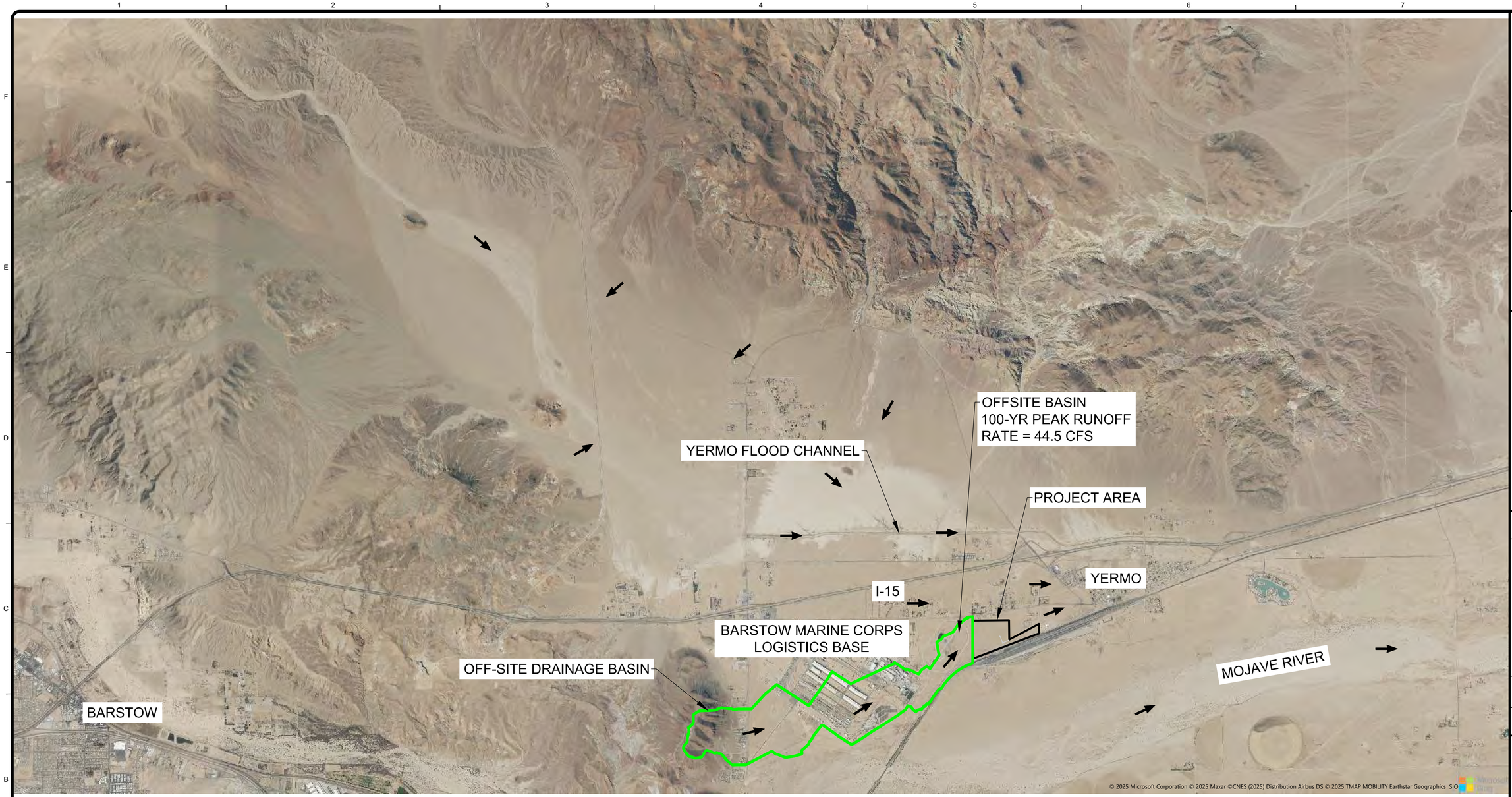
PROJ:	117-367023-24003
DATE:	6/2025
DESN:	FLC

Figure
1

Bar Measures 1 inch

Copyright: Tetra Tech

7/30/2025 11:25:34 AM - C:\USERS\GRACE.HART\ONEDRIVE - TETRA TECH, INC\FREEPOINT YERMO - DOCUMENTS\YERMO\07-CAD\SHEETFILES\GRADING & DRAINAGE\VICINITY MAP.DWG - HART, GRACE



LEGEND:

OFF-SITE DRAINAGE BASIN BOUNDARY

GENERALIZED DRAINAGE DIRECTION

N

0 1250' 2500' 5000'

SCALE: 1" = 2500'

Bar Measures 1 inch, otherwise drawing not to scale

TETRA TECH
www.tetratech.com
351 Coffman Street, Suite 200
Longmont, CO 80501
Phone: +1 (303) 772-5282

MARK	DATE	DESCRIPTION	BY

Freepoint Eco-Systems Yermo Supply LLC

Plastics Sorting and Processing Facility

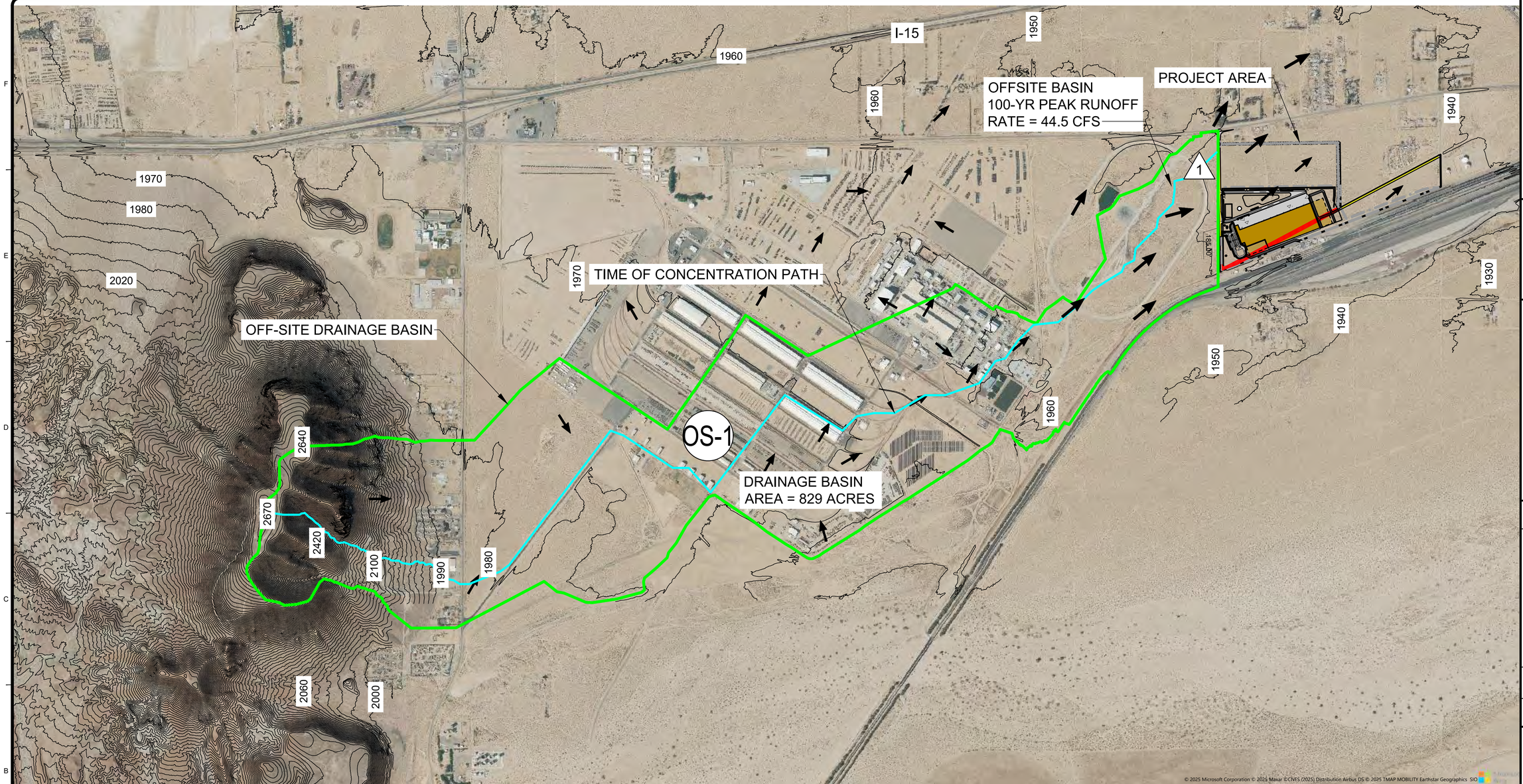
SITE LOCATION MAP

PROJ:	117-367023-24003
DESN:	FLC
DRWN:	GEH
CHKD:	FLC

2

Copyright: Tetra Tech

7/30/2025 11:24:59 AM - C:\USERS\GRACE.HART\ONEDRIVE - TETRA TECH, INC\FREEPOINT YERMO - DOCUMENTS\YERMO\07-CAD\SHEETFILES\GRADING & DRAINAGE\DRAINAGE PLAN_1.DWG - HART, GRACE



LEGEND:

- OFF-SITE DRAINAGE BASIN BOUNDARY
- TIME OF CONCENTRATION PATH
- # BASIN ID
- X POINT OF ANALYSIS
- GENERALIZED DRAINAGE DIRECTION

N

0 375' 750' 1500'

SCALE: 1" = 750'

Bar Measures 1 inch, otherwise drawing not to scale

TETRA TECH
www.tetratech.com
351 Coffman Street, Suite 200
Longmont, CO 80501
Phone: +1 (303) 772-5282

MARK	DATE	DESCRIPTION	BY

Freepoint Eco-Systems Yermo Supply LLC

Plastics Sorting and Processing Facility

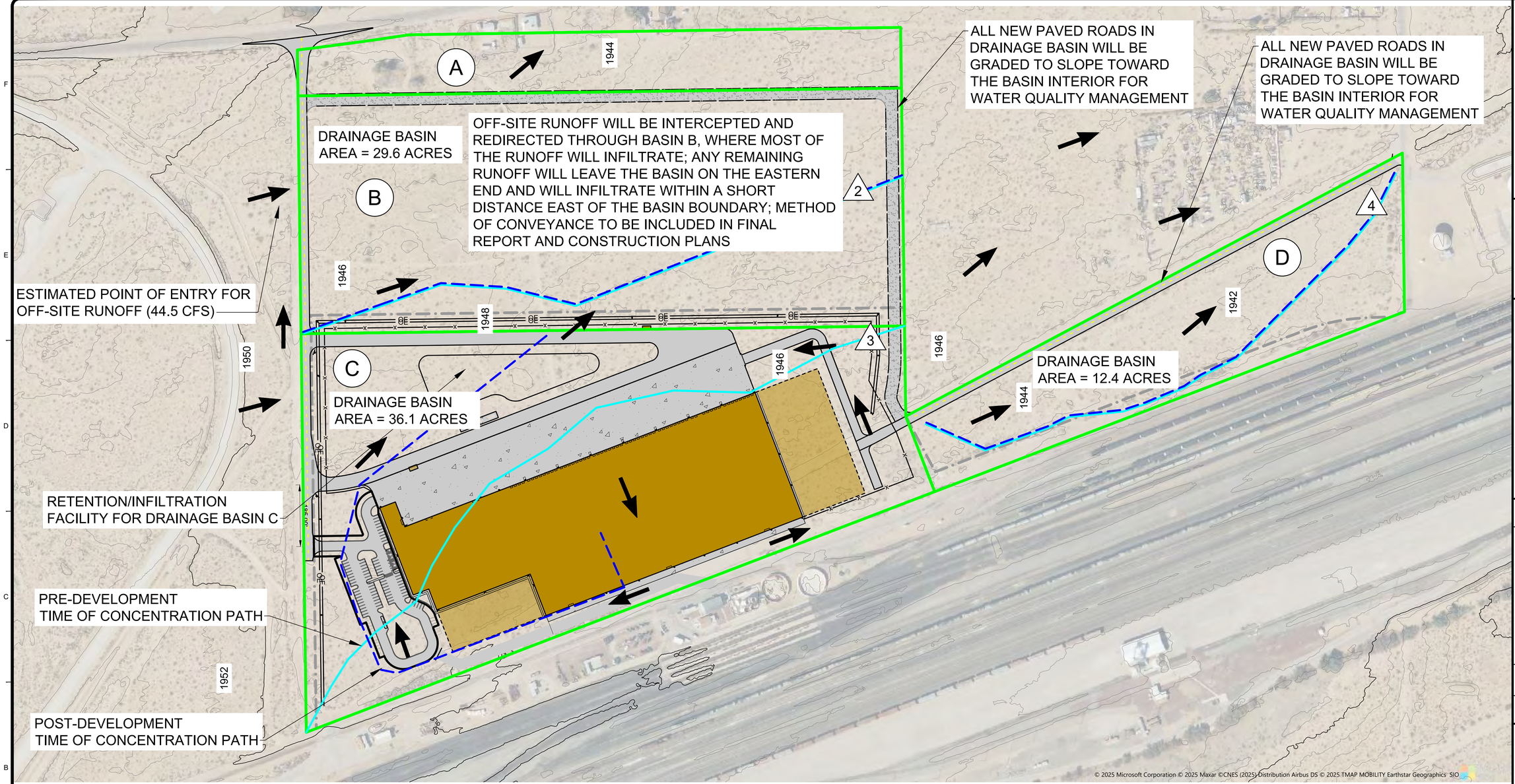
OFF-SITE DRAINAGE PLAN

PROJ:	117-367023-24003
DESN:	FLC
DRWN:	GEH
CHKD:	FLC

3

Copyright: Tetra Tech

7/30/2025 11:19:00 AM - C:\USERS\GRACE.HART\ONEDRIVE - TETRA TECH, INC\FREEPOINT YERMO - DOCUMENTS\YERMO\07-CAD\SHEETFILES\GRADING & DRAINAGE\DRAINAGE PLAN_1.DWG - HART, GRACE



LEGEND:

- BASIN DELINEATION
- PRE-DEVELOPMENT TIME OF CONCENTRATION PATH
- POST-DEVELOPMENT TIME OF CONCENTRATION PATH
- # BASIN ID
- X POINT OF ANALYSIS
- GENERALIZED DRAINAGE DIRECTION

N

0 75' 150' 300'

SCALE: 1" = 150'

Bar Measures 1 inch, otherwise drawing not to scale

TETRA TECH
www.tetratech.com
351 Coffman Street, Suite 200
Longmont, CO 80501
Phone: +1 (303) 772-5282

MARK	DATE	DESCRIPTION	BY

Freepoint Eco-Systems Yermo Supply LLC

Plastics Sorting and Processing Facility

PROJECT AREA DRAINAGE PLAN

PROJ:	117-367023-24003
DESN:	FLC
DRWN:	GEH
CHKD:	FLC

4

Copyright: Tetra Tech

7/30/2025 11:17:53 AM - C:\USERS\GRACE.HART\ONEDRIVE - TETRA TECH, INC\FREEPOINT YERMO - DOCUMENTS\YERMO\07-CAD\SHEETFILES\GRADING & DRAINAGE\DRAINAGE PLAN_1.DWG - HART, GRACE

Appendix B - Site Data

Appendix B-1 FEMA Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11 North. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. This imagery was flown in 2005 and was produced with a 1-meter ground sample distance.

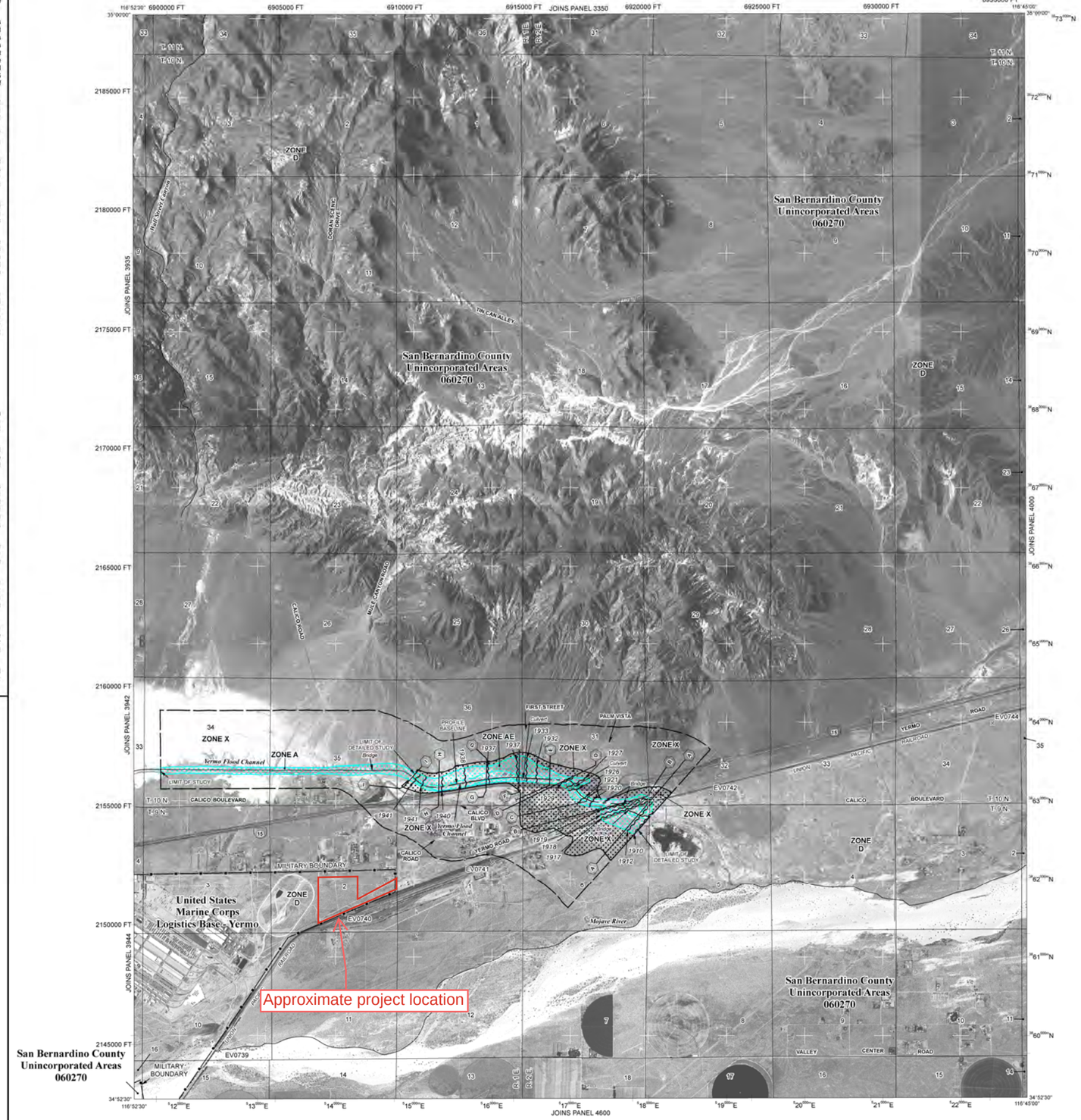
This map may reflect more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAS)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL. 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3776000mN — 1000-meter Universal Transverse Mercator grid values, zone 11N
- 600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 18, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
August 28, 2008 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 3975H

FIRM

FLOOD INSURANCE RATE MAP

SAN BERNARDINO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 3975 OF 9400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN BERNARDINO COUNTY	060270	3975	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06071C3975H

MAP REVISED
AUGUST 28, 2008

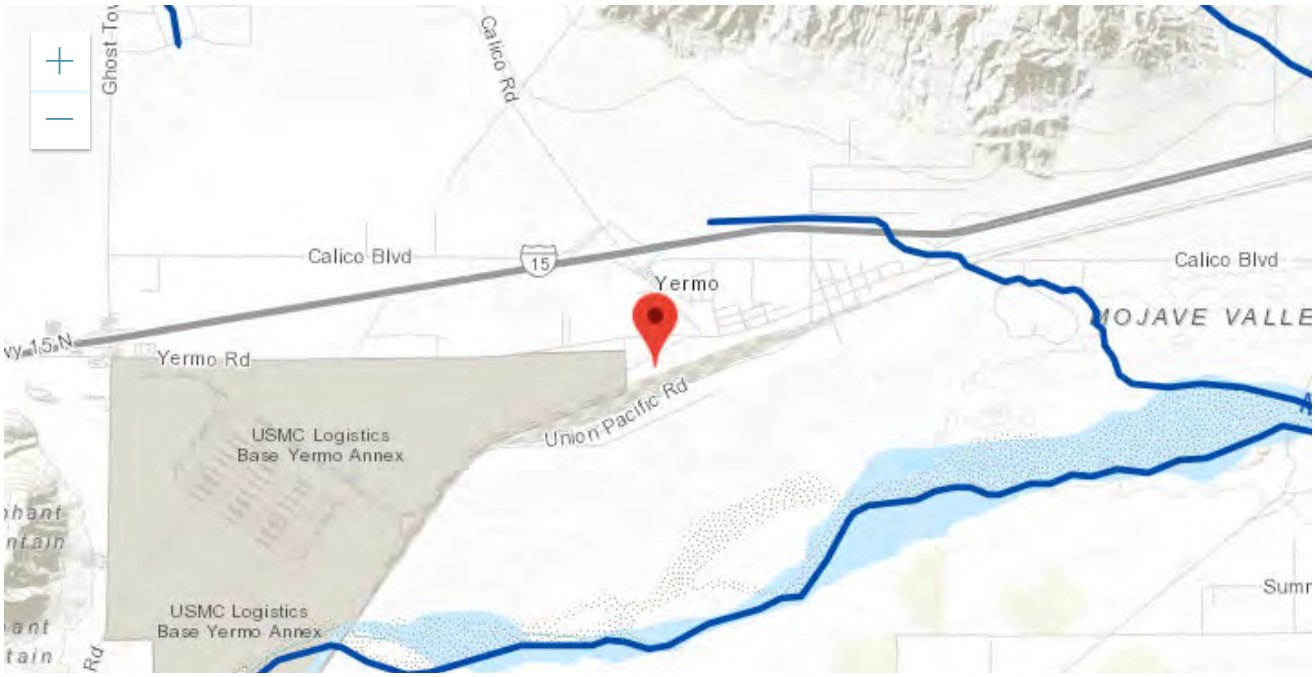
Federal Emergency Management Agency

Appendix B-2 Best Available Map (BAM) from DWR

CALIFORNIA DEPARTMENT OF
WATER RESOURCES

Floodplain Information

Latitude: 34.90147, Longitude: -116.83495



County: San Bernardino (34.90147, -116.83495)

Floodplain Layer	100-YR	200-YR	500-YR
FEMA Effective	N	N/A	N
DWR Awareness	N	N/A	N/A
Regional/Special Studies	N	N/A	N
USACE Comp. Study	N	N	N

Y: The location is within the floodplain
N: The location is not within the floodplain
N/A: Data not available
✓ = Active Layer(s)

Floodplains are displayed using semi transparent colors. When viewing overlapping floodplains, the combination of multiple semi transparent colors will not match the legend colors. For accurate color representation, view floodplains individually.

Appendix B-3 Soil Information

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Bernardino County, California, Mojave River Area

Off-Site Drainage Basin



June 5, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
San Bernardino County, California, Mojave River Area.....13
112—CAJON SAND, 0 TO 2 PERCENT SLOPES.....13
113—CAJON SAND, 2 TO 9 PERCENT SLOPES.....14
115—CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES.....15
151—NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*.....16
158—ROCK OUTCROP-LITHIC TORRIORTHENTS COMPLEX, 15 TO 50 PERCENT SLOPES*.....18
References.....21

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map


116° 54' 9" W
116° 50' 39" W
34° 54' 24" N
34° 52' 32" N
509100
509600
510100
510600
511100
511600
512100
512600
513100
513600
514100
3862500
3862000
3861500
3861000
3860500
3860000
3859500
15
113
112
158
151
115
115
Map Scale: 1:24,400 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
350
700
1400
2100
Feet
0
1000
2000
4000
6000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 16, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2021—May 27, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
112	CAJON SAND, 0 TO 2 PERCENT SLOPES	592.9	71.5%
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	99.8	12.0%
115	CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES	20.9	2.5%
151	NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*	45.7	5.5%
158	ROCK OUTCROP-LITHIC TORRIORTHENTS COMPLEX, 15 TO 50 PERCENT SLOPES*	70.0	8.4%
Totals for Area of Interest		**829.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County, California, Mojave River Area

112—CAJON SAND, 0 TO 2 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkrj
Elevation: 1,800 to 3,200 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 7 inches: sand
H2 - 7 to 25 inches: sand
H3 - 25 to 45 inches: gravelly sand
H4 - 45 to 60 inches: stratified sand to loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XF012CA - Sandy
Hydric soil rating: No

Minor Components

Manet

Percent of map unit: 5 percent

Landform: Playas
Hydric soil rating: Yes

Kimberlina
Percent of map unit: 5 percent

Helendale
Percent of map unit: 5 percent

113—CAJON SAND, 2 TO 9 PERCENT SLOPES

Map Unit Setting
National map unit symbol: hkrk
Elevation: 1,800 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile
A - 0 to 6 inches: sand
C1 - 6 to 25 inches: sand
C2 - 25 to 60 inches: gravelly sand

Properties and qualities
Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R030XF012CA - Sandy
Hydric soil rating: No

Minor Components

Helendale

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Kimberlina

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Cajon, gravelly surface

Percent of map unit: 5 percent
Landform: Alluvial fans

115—CAJON GRAVELLY SAND, 2 TO 15 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkrm
Elevation: 2,300 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Cajon, gravelly surface, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon, Gravelly Surface

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 8 inches: gravelly sand
H2 - 8 to 60 inches: gravelly sand

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R030XF028CA - COBBLY SANDY
Hydric soil rating: No

Minor Components

Arizo

Percent of map unit: 3 percent
Hydric soil rating: No

Cajon

Percent of map unit: 3 percent
Hydric soil rating: No

Kimberlina

Percent of map unit: 3 percent
Hydric soil rating: No

Yermo

Percent of map unit: 3 percent
Hydric soil rating: No

Cajon, cobbly surface

Percent of map unit: 3 percent

151—NEBONA-CUDDEBACK COMPLEX, 2 TO 9 PERCENT SLOPES*

Map Unit Setting

National map unit symbol: hkss
Elevation: 1,800 to 3,400 feet
Mean annual precipitation: 3 to 5 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 200 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Nebona and similar soils: 60 percent
Cuddeback and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nebona

Setting

Landform: Fan remnants
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

H1 - 0 to 2 inches: sandy loam
H2 - 2 to 8 inches: fine sandy loam
H3 - 8 to 12 inches: indurated
H4 - 12 to 65 inches: stratified gravelly sand to loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 6 to 14 inches to duripan
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R030XF030CA - DESERT PAVEMENT
Hydric soil rating: No

Description of Cuddeback

Setting

Landform: Inset fans
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

H1 - 0 to 3 inches: sandy loam
H2 - 3 to 6 inches: sandy loam
H3 - 6 to 17 inches: gravelly sandy clay loam
H4 - 17 to 34 inches: gravelly sandy loam

H5 - 34 to 38 inches: indurated

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 20 to 40 inches to duripan
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R030XG024CA - DESERT PAVEMENT
Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 19 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Playas
Hydric soil rating: Yes

158—ROCK OUTCROP-LITHIC TORRIORTHENTS COMPLEX, 15 TO 50 PERCENT SLOPES*

Map Unit Setting

National map unit symbol: hkt0
Elevation: 650 to 9,000 feet
Mean annual precipitation: 3 to 5 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 200 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 60 percent
Lithic torriorthents and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave

Typical profile

H1 - 0 to 10 inches: unweathered bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Lithic Torriorthents

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 15 inches: variable
H2 - 15 to 29 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 8 to 20 inches to lithic bedrock
Drainage class: Excessively drained
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydric soil rating: No

Minor Components

Sparkhule

Percent of map unit: 4 percent
Hydric soil rating: No

Trigger

Percent of map unit: 3 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Bernardino County, California, Mojave River Area

On-Site Drainage Basin



June 5, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....12
Map Unit Descriptions.....12
San Bernardino County, California, Mojave River Area.....14
113—CAJON SAND, 2 TO 9 PERCENT SLOPES.....14
References.....16

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:5,540 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 16, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2021—May 27, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	85.4	100.0%
Totals for Area of Interest		**85.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County, California, Mojave River Area

113—CAJON SAND, 2 TO 9 PERCENT SLOPES

Map Unit Setting

National map unit symbol: hkrk
Elevation: 1,800 to 3,500 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 68 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cajon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cajon

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Typical profile

A - 0 to 6 inches: sand
C1 - 6 to 25 inches: sand
C2 - 25 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R030XF012CA - Sandy
Hydric soil rating: No

Minor Components

Helendale

Percent of map unit: 5 percent

Landform: Alluvial fans
Hydric soil rating: No

Kimberlina

Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Cajon, gravelly surface

Percent of map unit: 5 percent
Landform: Alluvial fans

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix B-4 Rainfall Data



Precipitation Depth

NOAA Atlas 14, Volume 6, Version 2
Location name: Yermo, California, USA*
Latitude: 34.8977°, Longitude: -116.8483°
Elevation: 1948 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.080** (0.066-0.099)	**0.124** (0.101-0.153)	**0.184** (0.150-0.228)	**0.234** (0.189-0.292)	**0.305** (0.239-0.393)	**0.362** (0.278-0.476)	**0.422** (0.317-0.568)	**0.486** (0.356-0.672)	**0.577** (0.406-0.829)	**0.651** (0.443-0.966)
10-min	**0.115** (0.094-0.142)	**0.178** (0.145-0.220)	**0.263** (0.215-0.326)	**0.335** (0.271-0.419)	**0.437** (0.343-0.564)	**0.519** (0.399-0.682)	**0.605** (0.455-0.814)	**0.697** (0.510-0.963)	**0.827** (0.582-1.19)	**0.932** (0.634-1.38)
15-min	**0.139** (0.114-0.172)	**0.215** (0.176-0.266)	**0.318** (0.260-0.395)	**0.406** (0.328-0.507)	**0.529** (0.415-0.682)	**0.628** (0.483-0.825)	**0.732** (0.550-0.985)	**0.843** (0.617-1.16)	**1.00** (0.703-1.44)	**1.13** (0.767-1.67)
30-min	**0.191** (0.157-0.236)	**0.295** (0.241-0.365)	**0.437** (0.356-0.542)	**0.557** (0.450-0.695)	**0.726** (0.569-0.936)	**0.862** (0.662-1.13)	**1.00** (0.755-1.35)	**1.16** (0.847-1.60)	**1.37** (0.966-1.97)	**1.55** (1.05-2.30)
60-min	**0.261** (0.213-0.322)	**0.403** (0.329-0.498)	**0.596** (0.486-0.738)	**0.759** (0.614-0.948)	**0.990** (0.776-1.28)	**1.18** (0.903-1.54)	**1.37** (1.03-1.84)	**1.58** (1.15-2.18)	**1.87** (1.32-2.69)	**2.11** (1.44-3.13)
2-hr	**0.348** (0.285-0.430)	**0.494** (0.404-0.611)	**0.694** (0.565-0.859)	**0.861** (0.697-1.08)	**1.10** (0.861-1.42)	**1.29** (0.990-1.69)	**1.49** (1.12-2.00)	**1.70** (1.24-2.35)	**2.00** (1.40-2.87)	**2.23** (1.52-3.32)
3-hr	**0.411** (0.337-0.508)	**0.568** (0.464-0.702)	**0.782** (0.637-0.968)	**0.961** (0.778-1.20)	**1.22** (0.952-1.56)	**1.42** (1.09-1.86)	**1.63** (1.22-2.19)	**1.85** (1.36-2.56)	**2.17** (1.52-3.11)	**2.42** (1.65-3.59)
6-hr	**0.496** (0.406-0.612)	**0.667** (0.545-0.824)	**0.898** (0.732-1.11)	**1.09** (0.883-1.36)	**1.36** (1.07-1.76)	**1.58** (1.22-2.08)	**1.81** (1.36-2.43)	**2.05** (1.50-2.83)	**2.38** (1.67-3.42)	**2.64** (1.80-3.92)
12-hr	**0.555** (0.454-0.685)	**0.746** (0.610-0.922)	**1.00** (0.818-1.24)	**1.22** (0.986-1.52)	**1.52** (1.19-1.96)	**1.75** (1.35-2.30)	**2.00** (1.50-2.69)	**2.26** (1.65-3.12)	**2.61** (1.84-3.75)	**2.89** (1.97-4.29)
24-hr	**0.647** (0.574-0.745)	**0.886** (0.785-1.02)	**1.20** (1.06-1.39)	**1.47** (1.28-1.71)	**1.83** (1.55-2.20)	**2.11** (1.75-2.59)	**2.40** (1.94-3.02)	**2.70** (2.13-3.50)	**3.11** (2.35-4.20)	**3.43** (2.50-4.79)
2-day	**0.781** (0.693-0.898)	**1.07** (0.950-1.24)	**1.46** (1.29-1.69)	**1.78** (1.56-2.07)	**2.22** (1.88-2.67)	**2.56** (2.13-3.15)	**2.92** (2.36-3.67)	**3.28** (2.59-4.25)	**3.78** (2.86-5.11)	**4.18** (3.05-5.83)
3-day	**0.823** (0.730-0.947)	**1.14** (1.01-1.31)	**1.55** (1.37-1.79)	**1.89** (1.66-2.20)	**2.36** (2.00-2.84)	**2.73** (2.26-3.35)	**3.10** (2.51-3.90)	**3.48** (2.74-4.51)	**4.01** (3.03-5.41)	**4.42** (3.23-6.17)
4-day	**0.849** (0.753-0.976)	**1.18** (1.04-1.36)	**1.61** (1.42-1.86)	**1.96** (1.72-2.29)	**2.45** (2.08-2.94)	**2.82** (2.34-3.46)	**3.19** (2.59-4.02)	**3.58** (2.82-4.64)	**4.11** (3.11-5.54)	**4.52** (3.30-6.31)
7-day	**0.904** (0.802-1.04)	**1.26** (1.12-1.45)	**1.73** (1.53-2.00)	**2.10** (1.84-2.45)	**2.61** (2.21-3.14)	**2.98** (2.48-3.66)	**3.36** (2.72-4.23)	**3.74** (2.94-4.84)	**4.24** (3.20-5.72)	**4.61** (3.37-6.44)
10-day	**0.965** (0.856-1.11)	**1.36** (1.20-1.56)	**1.86** (1.65-2.15)	**2.26** (1.99-2.64)	**2.80** (2.37-3.37)	**3.19** (2.65-3.92)	**3.58** (2.90-4.51)	**3.97** (3.13-5.14)	**4.48** (3.39-6.05)	**4.86** (3.55-6.79)
20-day	**1.11** (0.983-1.27)	**1.58** (1.40-1.82)	**2.19** (1.94-2.53)	**2.67** (2.34-3.11)	**3.32** (2.81-3.99)	**3.79** (3.15-4.66)	**4.26** (3.46-5.37)	**4.73** (3.73-6.12)	**5.33** (4.03-7.20)	**5.78** (4.22-8.07)
30-day	**1.23** (1.09-1.41)	**1.76** (1.56-2.03)	**2.46** (2.17-2.84)	**3.02** (2.65-3.52)	**3.78** (3.20-4.54)	**4.34** (3.60-5.33)	**4.90** (3.97-6.17)	**5.46** (4.30-7.06)	**6.18** (4.67-8.34)	**6.71** (4.90-9.37)
45-day	**1.37** (1.22-1.58)	**1.98** (1.75-2.28)	**2.78** (2.46-3.21)	**3.44** (3.01-4.00)	**4.34** (3.68-5.22)	**5.03** (4.18-6.18)	**5.72** (4.63-7.20)	**6.41** (5.05-8.30)	**7.32** (5.54-9.88)	**8.00** (5.84-11.2)
60-day	**1.49** (1.32-1.71)	**2.14** (1.90-2.47)	**3.03** (2.68-3.50)	**3.77** (3.30-4.39)	**4.79** (4.06-5.77)	**5.59** (4.64-6.87)	**6.40** (5.19-8.06)	**7.22** (5.69-9.35)	**8.32** (6.29-11.2)	**9.14** (6.68-12.8)

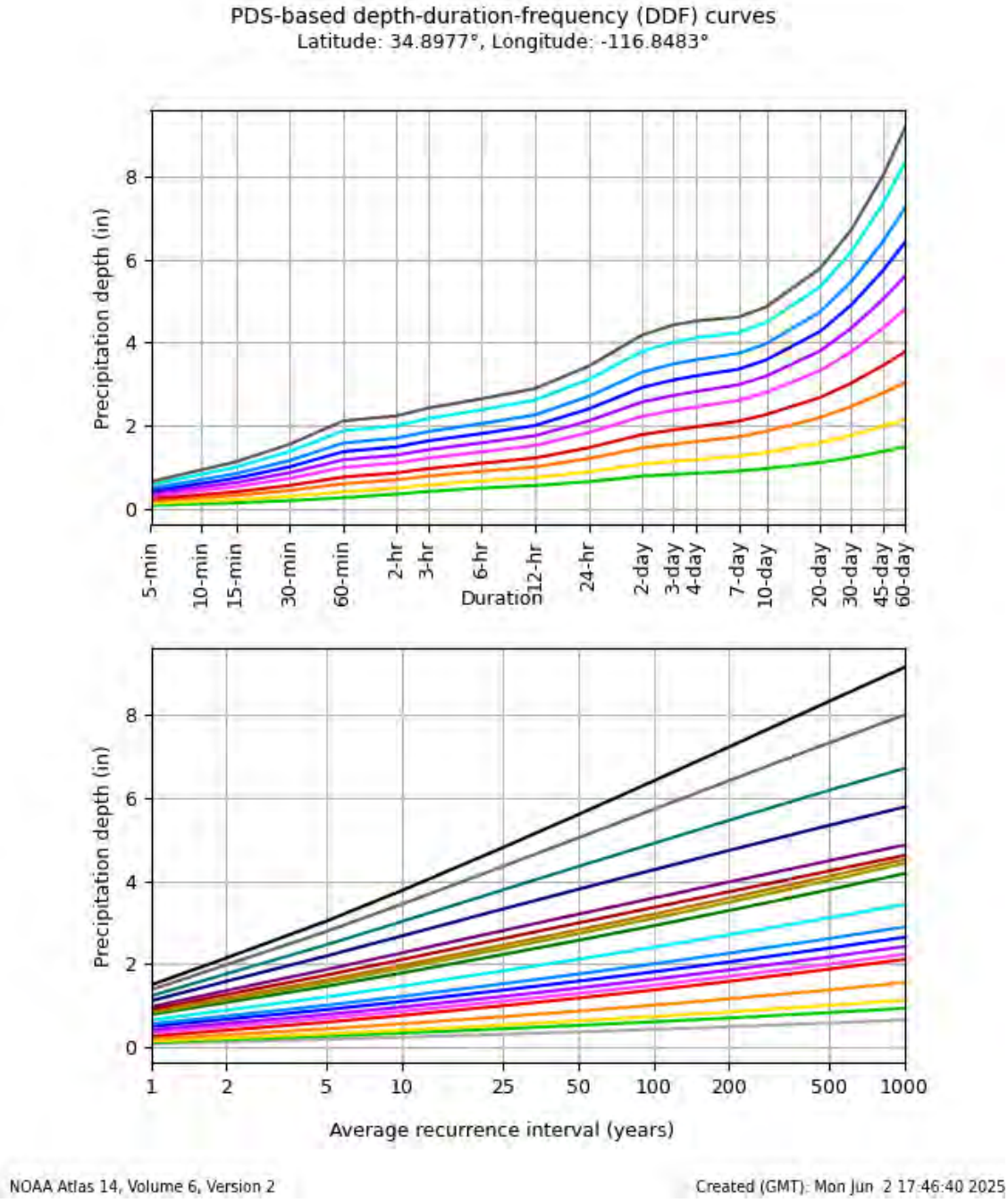
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

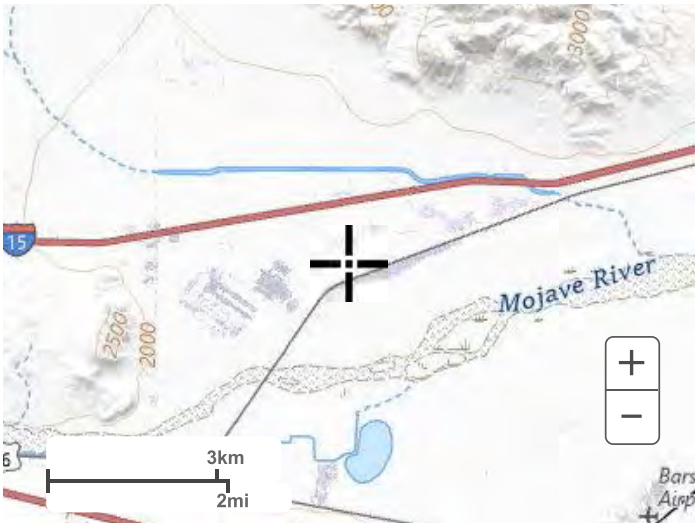
PF graphical



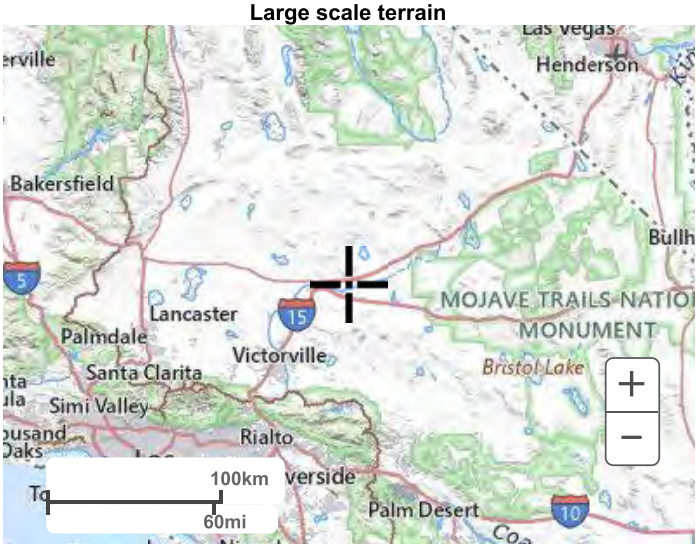
Back to Top

Maps & aerials

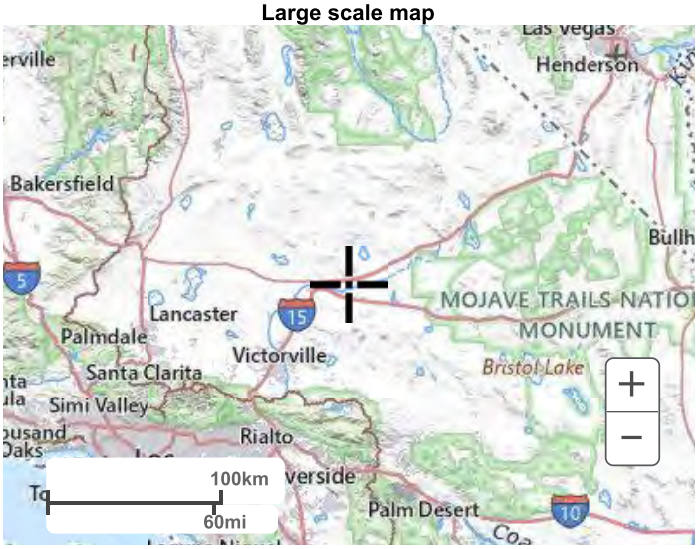
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Precipitation Intensity

NOAA Atlas 14, Volume 6, Version 2
Location name: Yermo, California, USA*
Latitude: 34.8977°, Longitude: -116.8483°
Elevation: 1948 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.960** (0.792-1.19)	**1.49** (1.21-1.84)	**2.21** (1.80-2.74)	**2.81** (2.27-3.50)	**3.66** (2.87-4.72)	**4.34** (3.34-5.71)	**5.06** (3.80-6.82)	**5.83** (4.27-8.06)	**6.92** (4.87-9.95)	**7.81** (5.32-11.6)
10-min	**0.690** (0.564-0.852)	**1.07** (0.870-1.32)	**1.58** (1.29-1.96)	**2.01** (1.63-2.51)	**2.62** (2.06-3.38)	**3.11** (2.39-4.09)	**3.63** (2.73-4.88)	**4.18** (3.06-5.78)	**4.96** (3.49-7.13)	**5.59** (3.80-8.30)
15-min	**0.556** (0.456-0.688)	**0.860** (0.704-1.06)	**1.27** (1.04-1.58)	**1.62** (1.31-2.03)	**2.12** (1.66-2.73)	**2.51** (1.93-3.30)	**2.93** (2.20-3.94)	**3.37** (2.47-4.66)	**4.00** (2.81-5.75)	**4.51** (3.07-6.70)
30-min	**0.382** (0.314-0.472)	**0.590** (0.482-0.730)	**0.874** (0.712-1.08)	**1.11** (0.900-1.39)	**1.45** (1.14-1.87)	**1.72** (1.32-2.27)	**2.01** (1.51-2.70)	**2.31** (1.69-3.20)	**2.75** (1.93-3.95)	**3.10** (2.11-4.60)
60-min	**0.261** (0.213-0.322)	**0.403** (0.329-0.498)	**0.596** (0.486-0.738)	**0.759** (0.614-0.948)	**0.990** (0.776-1.28)	**1.18** (0.903-1.54)	**1.37** (1.03-1.84)	**1.58** (1.15-2.18)	**1.87** (1.32-2.69)	**2.11** (1.44-3.13)
2-hr	**0.174** (0.142-0.215)	**0.247** (0.202-0.305)	**0.347** (0.282-0.429)	**0.430** (0.348-0.538)	**0.549** (0.430-0.708)	**0.644** (0.495-0.846)	**0.743** (0.558-1.00)	**0.849** (0.621-1.17)	**0.997** (0.701-1.43)	**1.12** (0.760-1.66)
3-hr	**0.136** (0.112-0.169)	**0.189** (0.154-0.233)	**0.260** (0.212-0.322)	**0.320** (0.259-0.399)	**0.404** (0.317-0.521)	**0.471** (0.362-0.620)	**0.542** (0.407-0.729)	**0.617** (0.451-0.852)	**0.721** (0.507-1.04)	**0.805** (0.548-1.20)
6-hr	**0.082** (0.067-0.102)	**0.111** (0.091-0.137)	**0.149** (0.122-0.185)	**0.182** (0.147-0.227)	**0.227** (0.178-0.293)	**0.264** (0.203-0.347)	**0.301** (0.226-0.405)	**0.341** (0.249-0.471)	**0.397** (0.279-0.570)	**0.441** (0.300-0.655)
12-hr	**0.046** (0.037-0.056)	**0.061** (0.050-0.076)	**0.083** (0.067-0.103)	**0.101** (0.081-0.126)	**0.125** (0.098-0.162)	**0.145** (0.111-0.191)	**0.165** (0.124-0.223)	**0.187** (0.136-0.258)	**0.216** (0.152-0.311)	**0.239** (0.163-0.356)
24-hr	**0.026** (0.023-0.031)	**0.036** (0.032-0.042)	**0.050** (0.044-0.057)	**0.061** (0.053-0.071)	**0.076** (0.064-0.091)	**0.087** (0.073-0.108)	**0.100** (0.081-0.125)	**0.112** (0.088-0.145)	**0.129** (0.098-0.174)	**0.142** (0.104-0.199)
2-day	**0.016** (0.014-0.018)	**0.022** (0.019-0.025)	**0.030** (0.026-0.035)	**0.037** (0.032-0.043)	**0.046** (0.039-0.055)	**0.053** (0.044-0.065)	**0.060** (0.049-0.076)	**0.068** (0.053-0.088)	**0.078** (0.059-0.106)	**0.087** (0.063-0.121)
3-day	**0.011** (0.010-0.013)	**0.015** (0.013-0.018)	**0.021** (0.019-0.024)	**0.026** (0.023-0.030)	**0.032** (0.027-0.039)	**0.037** (0.031-0.046)	**0.043** (0.034-0.054)	**0.048** (0.038-0.062)	**0.055** (0.042-0.075)	**0.061** (0.044-0.085)
4-day	**0.008** (0.007-0.010)	**0.012** (0.010-0.014)	**0.016** (0.014-0.019)	**0.020** (0.017-0.023)	**0.025** (0.021-0.030)	**0.029** (0.024-0.036)	**0.033** (0.026-0.041)	**0.037** (0.029-0.048)	**0.042** (0.032-0.057)	**0.047** (0.034-0.065)
7-day	**0.005** (0.004-0.006)	**0.007** (0.006-0.008)	**0.010** (0.009-0.011)	**0.012** (0.010-0.014)	**0.015** (0.013-0.018)	**0.017** (0.014-0.021)	**0.019** (0.016-0.025)	**0.022** (0.017-0.028)	**0.025** (0.019-0.034)	**0.027** (0.020-0.038)
10-day	**0.004** (0.003-0.004)	**0.005** (0.005-0.006)	**0.007** (0.006-0.008)	**0.009** (0.008-0.010)	**0.011** (0.009-0.014)	**0.013** (0.011-0.016)	**0.014** (0.012-0.018)	**0.016** (0.013-0.021)	**0.018** (0.014-0.025)	**0.020** (0.014-0.028)
20-day	**0.002** (0.002-0.002)	**0.003** (0.002-0.003)	**0.004** (0.004-0.005)	**0.005** (0.004-0.006)	**0.006** (0.005-0.008)	**0.007** (0.006-0.009)	**0.008** (0.007-0.011)	**0.009** (0.007-0.012)	**0.011** (0.008-0.014)	**0.012** (0.008-0.016)
30-day	**0.001** (0.001-0.001)	**0.002** (0.002-0.002)	**0.003** (0.003-0.003)	**0.004** (0.003-0.004)	**0.005** (0.004-0.006)	**0.006** (0.005-0.007)	**0.006** (0.005-0.008)	**0.007** (0.005-0.009)	**0.008** (0.006-0.011)	**0.009** (0.006-0.013)
45-day	**0.001** (0.001-0.001)	**0.001** (0.001-0.002)	**0.002** (0.002-0.002)	**0.003** (0.002-0.003)	**0.004** (0.003-0.004)	**0.004** (0.003-0.005)	**0.005** (0.004-0.006)	**0.005** (0.004-0.007)	**0.006** (0.005-0.009)	**0.007** (0.005-0.010)
60-day	**0.001** (0.000-0.001)	**0.001** (0.001-0.001)	**0.002** (0.001-0.002)	**0.002** (0.002-0.003)	**0.003** (0.002-0.004)	**0.003** (0.003-0.004)	**0.004** (0.003-0.005)	**0.005** (0.003-0.006)	**0.005** (0.004-0.007)	**0.006** (0.004-0.008)

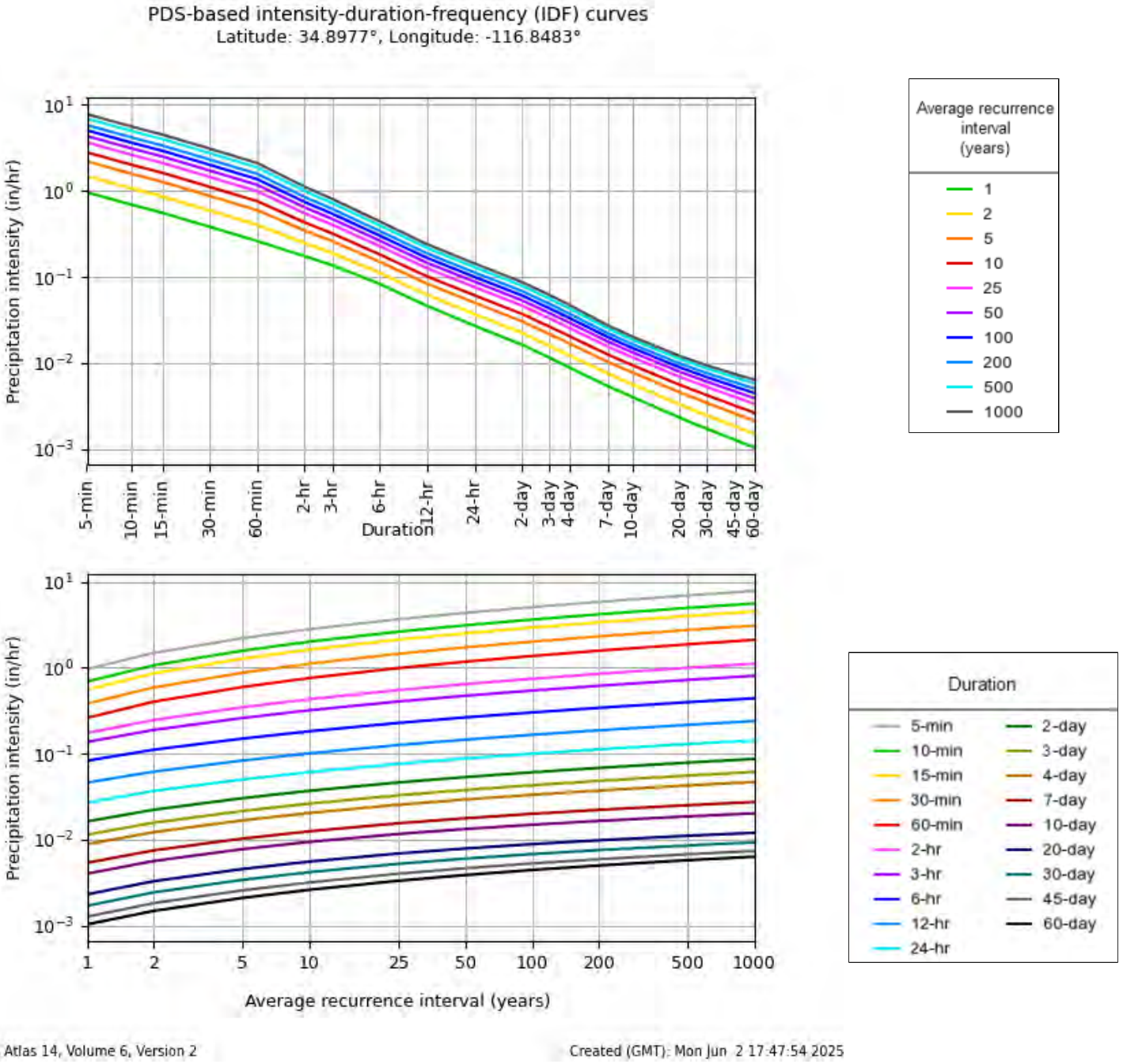
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

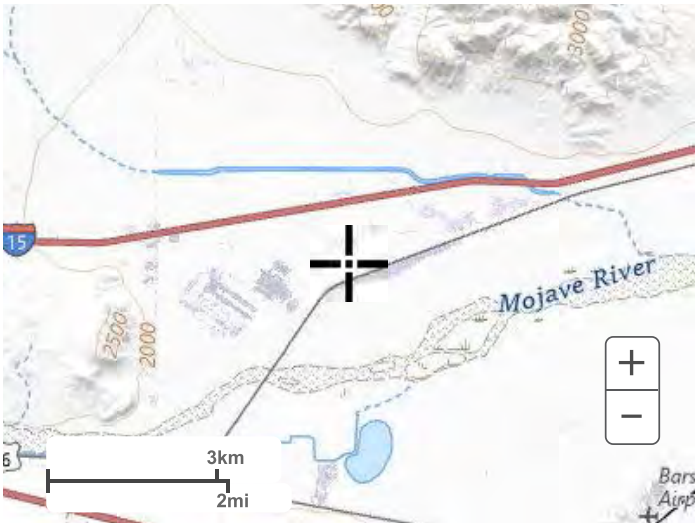
PF graphical



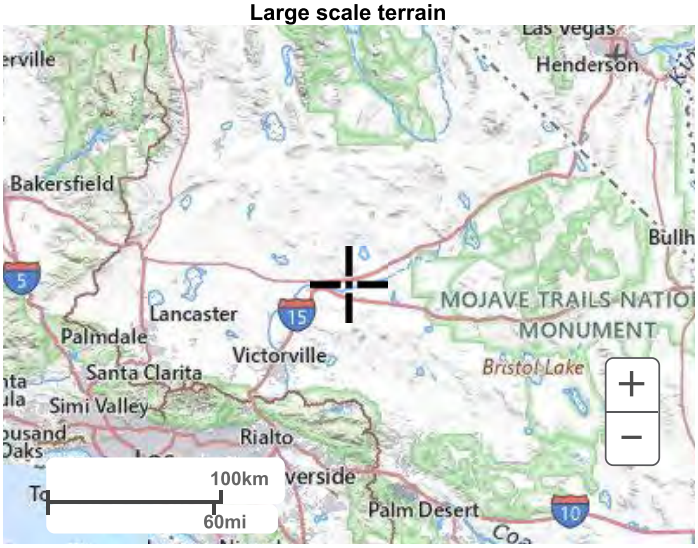
Back to Top

Maps & aerials

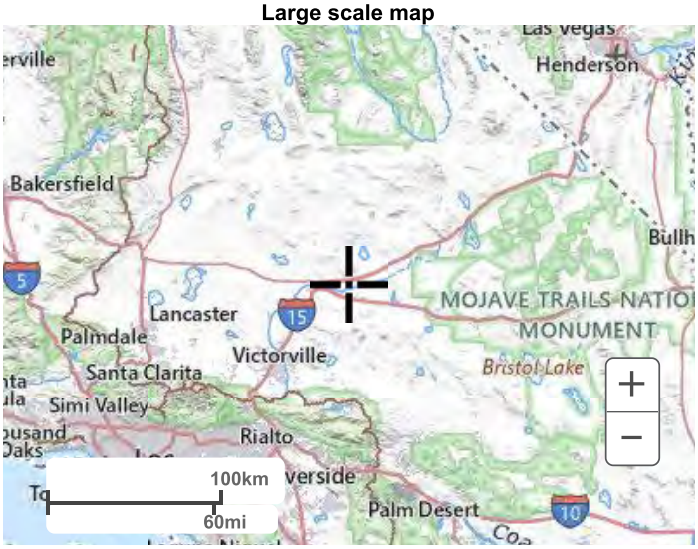
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix C - Calculations



Appendix C-1 Calculations in Excel



Yermo Hydrology Calculations
Completed by: Michael Barzaghi on 6/12/2025
Checked By: Grace Hart 6/17/2025
Reviewed by: Fred Charles 6/24/2025

General Notes:

1. CN Method was used for offsite calculations (HEC - HMS used)
2. Rational Method was used for onsite calculations
3. CN Method was used for offsite and onsite runoff volume
4. AMC 2 was used for all calculations
5. Pre-development uses the same CN
6. Post-development uses composite CN
7. Basin ON-A has been excluded from hydrology results as it is outside the project boundary.

SHEET INDEX

Calculation Sheet Name	Notes
Hydrology Results	Results from various methods, separated into exisiting vs. post development
Offsite Composite CN	Evaluates Composite CN for offsite conditions under AMC 2
Offsite CN Method Runoff	Evaluates offsite existing peak discharge
Onsite PostDev CN & C	Evaluates composite CN and C for onsite post developed conditions
Onsite Rational Method - PreDev	Evaluates onsite pre-development peak discharge
Onsite Rational Method - PostDev	Evaluates onsite post-development peak discharge
Vol Onsite CN - PreDev	Evaluates onsite pre-development storage volume using CN method (AMC 2 conditions)
Vol Onsite CN - PostDev	Evaluates onsite post-development volume using CN method
Point Precipitation Frequency Estimates	Precipitation/intensity data from NOAA
References	

HYDROLOGY RESULTS

Yermo Drainage - Existing Basin Hydrology

		Peak Flow Rate by Basin (cfs)					
Method	**Event**	**Offsite**	**EX ON-A**	**EX ON-B**	**EX ON-C**	**EX ON-D**	**Notes**
HEC-HMS SCS Type II	100-yr, 24-hr	44.5	--	--	--	--	
HEC-HMS SCS Type II	10-yr, 24-hr	3.7	--	--	--	--	
Rational Method - Onsite (C=0.1)	100-yr, 30-min	--	--	6.0	7.3	2.5	
Rational Method - Onsite (C=0.1)	10-yr, 30-min	--	--	3.3	4.0	1.4	

		Runoff Volume by Basin (cubic feet)					
Method	**Event**	**Offsite**	**EX ON-A**	**EX ON-B**	**EX ON-C**	**EX ON-D**	**Notes**
TR-55 Excel calcs	100-yr, 24-hr	--	--	24.8	30.2	10.4	
TR-55 Excel calcs	10-yr, 24-hr	--	--	0.00	0.00	0.00	

Yermo Drainage - Post-Development Basin Hydrology

		Peak Flow Rate by Basin (cfs)					
Method	**Event**	**Offsite**	**ON-A**	**ON-B**	**ON-C**	**ON-D**	**Notes**
Rational Method - Onsite	100-yr, 30-min	--	--	9.0	64.2	4.1	Undevelped area C=0.1, intensity = 15 min for ON-C
Rational Method - Onsite	10-yr, 30-min	--	--	5.0	35.5	2.3	Undevelped area C=0.1, intensity = 15 min for ON-C

		Runoff Volume by Basin (cubic feet)					
Method	**Event**	**Offsite**	**ON-A**	**ON-B**	**ON-C**	**ON-D**	**Notes**
TR-55 Excel Calcs	100-yr, 24-hr	--	--	919.6	71795.0	574.0	
TR-55 Excel Calcs	10-yr, 24-hr	--	--	0.0	17735.7	0.0	

OFFSITE COMPOSITE CN

Areas

Assume Fair soil condition

Total offsite drainage area 36118958 SF

Hilly area (green, west side)

Area	6394524	SF
	146.8	AC
	0.229	SQ. MI.
Soil Hyd. Group	D	from Web Soil Survey report
Curve Number	83	Reference: San Bernardino County

Roads (orange, from CAD but not visible in image)

Area	869567	SF
	20.0	AC
	0.031	SQ. MI.
Soil Hyd. Group	A	from Web Soil Survey report
Curve Number	90	Reference: San Bernardino County

Industrial (yellow)

Area	11143916	SF
	255.8	AC
	0.400	SQ. MI.
Soil Hyd. Group	A	from Web Soil Survey report
Curve Number	90	Reference: San Bernardino County

Desert (all other areas)

Area	17710951	SF
	406.6	AC
	0.635	SQ. MI.
Soil Hyd. Group	A	from Web Soil Survey report
Curve Number	46	Reference: San Bernardino County

Composite CN	**67.2**
% Pervious	66.74



Source: San Bernardino County Hydrology Manual

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent.)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	25	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		77	86	91	94

SAN BERNARDINO COUNTY HYDROLOGY MANUAL

CURVE NUMBERS FOR PERVIOUS AREAS

Figure C-3 (1 of 2)

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (Continued)					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	73	83	87

Notes:

1. All curve numbers are for Antecedent Moisture Condition (AMC) II.
2. Quality of cover definitions:

   Poor-Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.

   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.
3. See Figure C-2 for definition of cover types.

SAN BERNARDINO COUNTY HYDROLOGY MANUAL

CURVE NUMBERS FOR PERVIOUS AREAS

C-7

Figure C-3 (2 of 2)

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent (2)
Natural or Agriculture	0 - 0	0
Public Park	10 - 25	15
School	30 - 50	40
Single Family Residential: (3)		
2.5 acre lots	5 - 15	10
1 acre lots	10 - 25	20
2 dwellings/acre	20 - 40	30
3-4 dwellings/acre	30 - 50	40
5-7 dwellings/acre	35 - 55	50
8-10 dwellings/acre	50 - 70	60
More than 10 dwellings/acre	65 - 90	80
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 - 100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area shall always be made, and a review of aerial photos, where available, may assist in estimating the percentage of impervious cover in developed areas.
3. For typical equestrian subdivisions increase impervious area 5 percent over the values recommended in the table above.

SAN BERNARDINO COUNTY HYDROLOGY MANUAL

ACTUAL IMPERVIOUS COVER FOR DEVELOPED AREAS

Figure C-4

OFFSITE CN METHOD RUNOFF

Offsite Drainage Area

CAD area	36118958	SF
	829.2	AC
	1.30	SQ. MI.

use soil group C for hilly area on west side of watershed
use B for low lying areas

Curve Number Method - HEC HMS

Composite CN	67.2		
Storage, S	4.88		
Initial Abstraction, IA	0.98		Input for HEC HMS; Reference Eqn 2-2
100-yr, 24-hr Rainfall Depth, P	2.40	IN	Input for HEC HMS; Reference PF_Depth

Travel Times

Assume all shallow concentrated flow

Section 1 - hill area on west side of drainage

U/S Elev.	2674	FT
D/S Elev.	1984	FT
Flowpath Length	3437	FT
Slope	0.20	FT/FT

From Fig. 15-4
Use Alluvial Fan Western Mountain

Velocity	4.4	FT/S
Section 1 Travel Time	781.1	SEC
	13.0	MIN

Section 2 - remaining area apart from hill area

U/S Elev.	1984	FT
D/S Elev.	1946	FT
Flowpath Length	15457	FT
Slope	0.0024584	FT/FT

From Fig. 15-4
Use Pavement and Small Gullies

Velocity	1.45	FT/S
Section 2 Travel Time	10660.0	SEC
	177.7	MIN

Total Travel Time (TOC)	190.7	MIN	
	3.18	HR	
Lag Time	114.4	MIN	Input for HEC HMS; Reference: Eqn 15-3
	1.91	HR	

Source: NRCS National Engineering Handbook

B. NRCS Runoff Equation

(1) The NRCS runoff equation, also referred to as the NRCS CN Method, is a tool used to estimate runoff volume resulting from a storm event. For more information on the development and derivation of the runoff equation, see 210-NEH-630-9 and 210-NEH-630-10, "Estimation of Direct Runoff from Storm Rainfall".

(2) The NRCS runoff equation is:

$$Q = \frac{(P-I_a)^2}{(P-I_a)+S} \quad for\ P > I_a \qquad \text{(eq. 2–1a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-1b)}$$

where: Q = runoff, in
P = rainfall, in
I_a = initial abstraction, in
S = potential maximum retention after runoff begins, in

(3) Initial abstraction (I_a) includes all losses (water retained on the landscape) before runoff begins. It includes water retained in surface depressions, water intercepted by vegetation and other cover, and water lost to evaporation and infiltration. I_a is highly variable but is generally correlated with soil and cover parameters. Through studies of many small agricultural watersheds, researchers found I_a to be approximated by:

$$I_a = 0.2S \qquad \text{(eq. 2–2)}$$

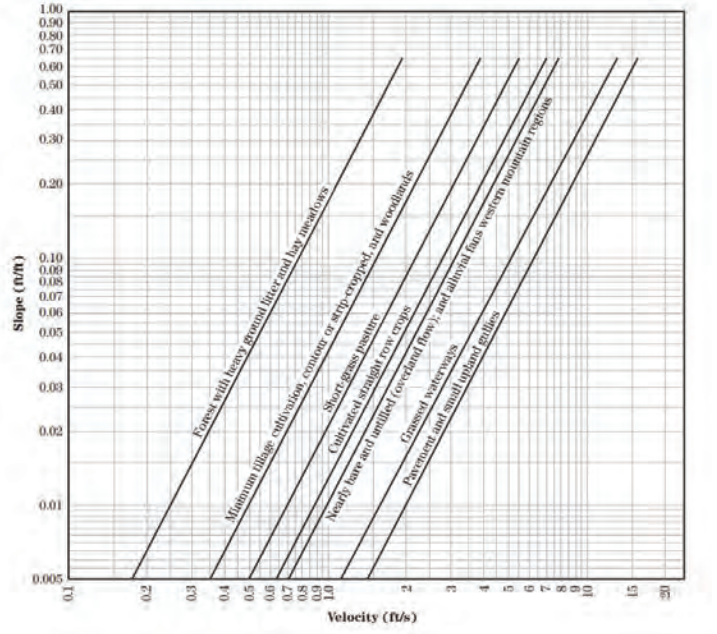
(4) Removing I_a as an independent parameter allows use of a combination of S and P to produce unique runoff volumes. Substituting equation 2–2 into equation 2–1 gives:

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)} \quad for\ P > I_a \qquad \text{(eq. 2–3a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-3b)}$$

Source: NRCS National Engineering Handbook

Figure 15–4 Velocity versus slope for shallow concentrated flow



ONSITE POSTDEV CN & C

					Commercial Area			*Remaining Undeveloped Area*			*Runoff Parameters*		
Basin	Node #	Area (SF)	Area (AC)	Area (SQ MI)	Area (sf)	Runoff Coefficient C	Curve Number CN	Undeveloped Area (sf)	Undeveloped C	Curve Number CN	Composite C	Composite CN	% Pervious
ON-A	-	319095	7.33	0.011	4261	-	-	314834	-	-	-	-	-
ON-B	2	1291130	29.64	0.046	82854	0.9	90	1208276	0.1	46	0.15	48.8	93.58
ON-C	3	1571657	36.08	0.056	995879	0.9	90	575778	0.1	46	0.61	73.9	36.64
ON-D	4	539539	12.39	0.019	43987	0.9	90	495552	0.1	46	0.17	49.6	91.85
						for runoff rate Rational Method	for volume CN Method		for runoff rate Rational Method	for volume CN Method	for runoff rate Rational Method	for volume CN Method	
2-yr, 24 hr rainfall	0.886	in											

Assumes fair soil condition CN, assume Soil Group A, desert shrub cover	46.0
Commercial Area CN - Commercial	90

Source: San Bernardino County Hydrology Manual

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent.)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	25	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		77	86	91	94

SAN BERNARDINO COUNTY HYDROLOGY MANUAL — CURVE NUMBERS FOR PERVIOUS AREAS

Figure C-3 (1 of 2)

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (Continued)					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87

Notes:

1. All curve numbers are for Antecedent Moisture Condition (AMC) II.
2. Quality of cover definitions:

   Poor-Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.

   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.
3. See Figure C-2 for definition of cover types.

SAN BERNARDINO COUNTY HYDROLOGY MANUAL — CURVE NUMBERS FOR PERVIOUS AREAS

C-7

Figure C-3 (2 of 2)

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent (2)
Natural or Agriculture	0 - 0	0
Public Park	10 - 25	15
School	30 - 50	40
Single Family Residential: (3)		
2.5 acre lots	5 - 15	10
1 acre lots	10 - 25	20
2 dwellings/acre	20 - 40	30
3-4 dwellings/acre	30 - 50	40
5-7 dwellings/acre	35 - 55	50
8-10 dwellings/acre	50 - 70	60
More than 10 dwellings/acre	65 - 90	80
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 - 100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area shall always be made, and a review of aerial photos, where available, may assist in estimating the percentage of impervious cover in developed areas.
3. For typical equestrian subdivisions increase impervious area 5 percent over the values recommended in the table above.

SAN BERNARDINO COUNTY HYDROLOGY MANUAL — ACTUAL IMPERVIOUS COVER FOR DEVELOPED AREAS

Figure C-4

ONSITE RATIONAL METHOD - PREDEV

Rational Method

				Sheet Flow						*Shallow Concentrated Flow*						*Time of Concentration*			*C = 0.10 for Undeveloped*				
Basin	Area (SF)	Area (AC)	Area (SQ MI)	U/S Elev	D/S Elev	Flow Length (ft)	Slope (ft/ft)	Manning's n	Travel Time (hr)	U/S Elev	D/S Elev	Flow Length (ft)	Slope (ft/ft)	Velocity (ft/s)	Travel Time (hr)	Total Travel Time (TOC, hr)	Total Travel Time (TOC, min)	Intensity Duration Used (min)	C	10-yr Intensity (in/hr)	10-yr Peak Flow (cfs)	100-yr Intensity (in/hr)	100-yr Peak Flow (cfs)
ON-A	319095	7.33	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ON-B	1291130	29.64	0.046	1948	1947	260	0.004	0.011	0.159	1947	1943	1641	0.002	0.7	0.651	0.81	48.6	30	0.1	1.11	3.3	2.01	5.96
ON-C	1571657	36.08	0.056	1949.5	1949	157	0.003	0.011	0.115	1949	1947	2149	0.000931	0.7	0.853	0.97	58.1	30	0.1	1.11	4.0	2.01	7.25
ON-D	539539	12.39	0.019	1948	1945	195	0.015	0.011	0.073	1945	1941	1548	0.002584	0.7	0.614	0.69	41.2	30	0.1	1.11	1.4	2.01	2.49

2-yr, 24 hr rainfall 0.886 in

Source: NRCS National Engineering Handbook

A simplified version of the Manning's kinematic solution may be used to compute travel time for sheet flow. This simplified form of the kinematic equation was developed by Welle and Woodward (1986) after studying the impact of various parameters on the estimates.

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \quad \text{(eq. 15–8)}$$

where:
T_t = travel time, h
n = Manning's roughness coefficient (table 15–1)
ℓ = sheet flow length, ft
P_2 = 2-year, 24-hour rainfall, in
S = slope of land surface, ft/ft

Table 15–1 Manning's roughness coefficients for sheet flow (flow depth generally ≤ 0.1 ft)

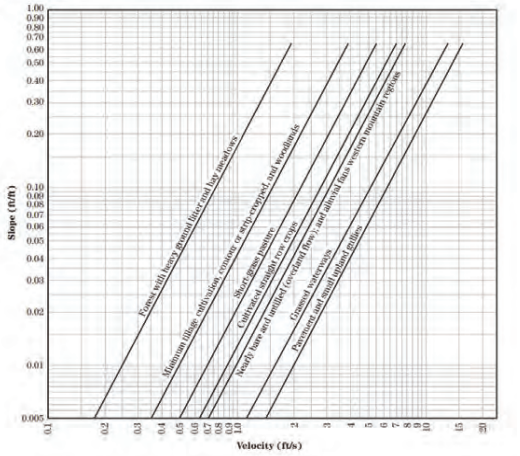
Surface description	n [2]
Smooth surface (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover ≤ 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short-grass prairie	0.15
Dense grasses [3]	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods: [4]	
Light underbrush	0.40
Dense underbrush	0.80

1 The Manning's n values are a composite of information compiled by Engman (1986).
2 Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.
3 When selecting n, consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

Shallow concentrated flow
Velocity = Nearly bare and untilled; and alluvial fans

Source: NRCS National Engineering Handbook

Figure 15–4 Velocity versus slope for shallow concentrated flow



Source: NOAA

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.960 (0.792-1.19)	1.49 (1.21-1.84)	2.21 (1.80-2.74)	2.81 (2.27-3.50)	3.66 (2.87-4.72)	4.34 (3.34-5.71)	5.06 (3.80-6.82)	5.83 (4.27-8.06)	6.92 (4.87-9.95)	7.81 (5.32-11.6)
10-min	0.690 (0.564-0.852)	1.07 (0.870-1.32)	1.58 (1.29-1.96)	2.01 (1.63-2.51)	2.62 (2.06-3.38)	3.11 (2.39-4.09)	3.63 (2.73-4.88)	4.18 (3.06-5.78)	4.96 (3.49-7.13)	5.59 (3.80-8.30)
15-min	0.556 (0.456-0.688)	0.860 (0.704-1.06)	1.27 (1.04-1.58)	1.62 (1.31-2.03)	2.12 (1.66-2.73)	2.51 (1.93-3.30)	2.93 (2.20-3.94)	3.37 (2.47-4.66)	4.00 (2.81-5.75)	4.51 (3.07-6.70)
30-min	0.382 (0.314-0.472)	0.590 (0.482-0.730)	0.874 (0.712-1.08)	1.11 (0.900-1.39)	1.45 (1.14-1.87)	1.72 (1.32-2.27)	2.01 (1.51-2.70)	2.31 (1.69-3.20)	2.75 (1.93-3.95)	3.10 (2.11-4.60)
60-min	0.261 (0.213-0.322)	0.403 (0.329-0.498)	0.596 (0.486-0.738)	0.759 (0.614-0.948)	0.990 (0.776-1.28)	1.18 (0.903-1.54)	1.37 (1.03-1.84)	1.58 (1.15-2.18)	1.87 (1.32-2.69)	2.11 (1.44-3.13)
2-hr	0.174 (0.142-0.215)	0.247 (0.202-0.305)	0.347 (0.282-0.429)	0.430 (0.348-0.538)	0.549 (0.430-0.708)	0.644 (0.495-0.846)	0.743 (0.558-1.00)	0.849 (0.621-1.17)	0.997 (0.701-1.43)	1.12 (0.760-1.66)
3-hr	0.136 (0.112-0.169)	0.189 (0.154-0.233)	0.260 (0.212-0.322)	0.320 (0.259-0.399)	0.404 (0.317-0.521)	0.471 (0.362-0.620)	0.542 (0.407-0.729)	0.617 (0.451-0.852)	0.721 (0.507-1.04)	0.805 (0.548-1.20)
6-hr	0.082 (0.067-0.102)	0.111 (0.091-0.137)	0.149 (0.122-0.185)	0.182 (0.147-0.227)	0.227 (0.178-0.293)	0.264 (0.203-0.347)	0.301 (0.226-0.405)	0.341 (0.249-0.471)	0.397 (0.279-0.570)	0.441 (0.300-0.655)
12-hr	0.046 (0.037-0.056)	0.061 (0.050-0.076)	0.083 (0.067-0.103)	0.101 (0.081-0.126)	0.125 (0.098-0.162)	0.145 (0.111-0.191)	0.165 (0.124-0.223)	0.187 (0.136-0.258)	0.216 (0.152-0.311)	0.239 (0.163-0.356)
24-hr	0.026 (0.023-0.031)	0.036 (0.032-0.042)	0.050 (0.044-0.057)	0.061 (0.053-0.071)	0.076 (0.064-0.091)	0.087 (0.073-0.108)	0.100 (0.081-0.125)	0.112 (0.088-0.145)	0.129 (0.098-0.174)	0.142 (0.104-0.199)
2-day	0.016 (0.014-0.018)	0.022 (0.019-0.025)	0.030 (0.026-0.035)	0.037 (0.032-0.043)	0.046 (0.039-0.055)	0.053 (0.044-0.065)	0.060 (0.049-0.076)	0.068 (0.053-0.088)	0.078 (0.059-0.106)	0.087 (0.063-0.121)
3-day	0.011 (0.010-0.013)	0.015 (0.013-0.018)	0.021 (0.019-0.024)	0.026 (0.023-0.030)	0.032 (0.027-0.039)	0.037 (0.031-0.046)	0.043 (0.034-0.054)	0.048 (0.038-0.062)	0.055 (0.042-0.075)	0.061 (0.044-0.085)
4-day	0.008 (0.007-0.010)	0.012 (0.010-0.014)	0.016 (0.014-0.019)	0.020 (0.017-0.023)	0.025 (0.021-0.030)	0.029 (0.024-0.036)	0.033 (0.026-0.041)	0.037 (0.029-0.048)	0.042 (0.032-0.057)	0.047 (0.034-0.065)
7-day	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.010 (0.009-0.011)	0.012 (0.010-0.014)	0.015 (0.013-0.018)	0.017 (0.014-0.021)	0.019 (0.016-0.025)	0.022 (0.017-0.028)	0.025 (0.019-0.034)	0.027 (0.020-0.038)
10-day	0.004 (0.003-0.004)	0.005 (0.005-0.006)	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.011 (0.009-0.014)	0.013 (0.011-0.016)	0.014 (0.012-0.018)	0.016 (0.013-0.021)	0.018 (0.014-0.025)	0.020 (0.014-0.028)
20-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.004-0.005)	0.005 (0.004-0.006)	0.006 (0.005-0.008)	0.007 (0.006-0.009)	0.008 (0.007-0.011)	0.009 (0.007-0.012)	0.011 (0.008-0.014)	0.012 (0.008-0.016)
30-day	0.001 (0.001-0.001)	0.002 (0.002-0.002)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.006 (0.005-0.007)	0.006 (0.005-0.008)	0.007 (0.005-0.009)	0.008 (0.006-0.011)	0.009 (0.006-0.013)
45-day	0.001 (0.001-0.001)	0.001 (0.001-0.002)	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.003-0.004)	0.004 (0.003-0.005)	0.005 (0.004-0.006)	0.005 (0.004-0.007)	0.006 (0.005-0.009)	0.007 (0.005-0.010)
60-day	0.001 (0.000-0.001)	0.001 (0.001-0.001)	0.002 (0.001-0.002)	0.002 (0.002-0.003)	0.003 (0.002-0.004)	0.003 (0.003-0.004)	0.004 (0.003-0.005)	0.005 (0.003-0.006)	0.005 (0.004-0.007)	0.006 (0.004-0.008)

ONSITE RATIONAL METHOD - POST DEV

Rational Method

				Sheet Flow						*Shallow Concentrated Flow*						*Time of Concentration*				*Post-Development Composite C*				
Basin	Area (SF)	Area (AC)	Area (SQ MI)	U/S Elev	D/S Elev	Flow Length (ft)	Slope (ft/ft)	Manning's n	Travel Time (hr)	U/S Elev	D/S Elev	Flow Length (ft)	Slope (ft/ft)	Velocity (ft/s)	Travel Time (hr)	Total Travel Time (TOC, hr)	Total Travel Time (TOC, min)	Lag Time (min)	Intensity Duration Used (min)	C	10-yr Intensity (in/hr)	10-yr Peak Flow (cfs)	100-yr Intensity (in/hr)	100-yr Peak Flow (cfs)
ON-A	319095	7.33	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ON-B	1291130	29.64	0.046	1948	1947	260	0.004	0.011	0.159	1947	1943	1641	0.002	0.7	0.651	0.81	48.6	29.2	30	0.15	1.11	5.0	2.01	9.0
ON-C	1571657	36.08	0.056	1955	1948	172	0.041	0.011	0.045	1948	1947	2063	0.000485	1.45	0.395	0.44	26.4	15.8	15	0.61	1.62	35.5	2.93	64.2
ON-D	539539	12.39	0.019	1948	1945	195	0.015	0.011	0.073	1945	1941	1548	0.002584	0.7	0.614	0.69	41.2	24.7	30	0.17	1.11	2.3	2.01	4.1

2-yr, 24 hr rainfall 0.886 in

Shallow concentrated flow
Velocity ON-A, ON-B, ON-D = Nearly bare and untilled; and alluvial fans
Velocity ON-C = Pavement and small upland gullies

Source: NRCS National Engineering Handbook

A simplified version of the Manning's kinematic solution may be used to compute travel time for sheet flow. This simplified form of the kinematic equation was developed by Welle and Woodward (1986) after studying the impact of various parameters on the estimates.

$$T_t = \frac{0.007(nl)^{0.8}}{(P_2)^{0.5}\, S^{0.4}} \qquad \text{(eq. 15–8)}$$

where:
T_t = travel time, h
n = Manning's roughness coefficient (table 15–1)
l = sheet flow length, ft
P_2 = 2-year, 24-hour rainfall, in
S = slope of land surface, ft/ft

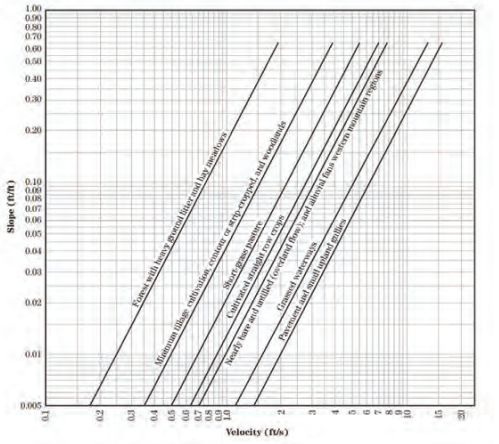
Table 15–1 Manning's roughness coefficients for sheet flow (flow depth generally ≤ 0.1 ft)

Surface description	n [1]
Smooth surface (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover ≤ 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short-grass prairie	0.15
Dense grasses [2]	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods: [3]	
Light underbrush	0.40
Dense underbrush	0.80

1 The Manning's n values are a composite of information compiled by Engman (1986).
2 Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.
3 When selecting n, consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

Source: NRCS National Engineering Handbook

Figure 15–4 Velocity versus slope for shallow concentrated flow



Source: NOAA

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.960 (0.792–1.19)	1.49 (1.21–1.84)	2.21 (1.80–2.74)	2.81 (2.27–3.50)	3.66 (2.87–4.72)	4.34 (3.34–5.71)	5.06 (3.80–6.82)	5.83 (4.27–8.06)	6.92 (4.87–9.95)	7.81 (5.32–11.6)
10-min	0.690 (0.564–0.852)	1.07 (0.870–1.32)	1.58 (1.29–1.96)	2.01 (1.63–2.51)	2.62 (2.05–3.38)	3.11 (2.39–4.09)	3.63 (2.73–4.88)	4.18 (3.06–5.78)	4.96 (3.49–7.13)	5.59 (3.80–8.30)
15-min	0.556 (0.456–0.688)	0.860 (0.704–1.06)	1.27 (1.04–1.58)	1.62 (1.31–2.03)	2.12 (1.66–2.73)	2.51 (1.93–3.30)	2.93 (2.20–3.94)	3.37 (2.47–4.66)	4.00 (2.81–5.75)	4.51 (3.07–6.70)
30-min	0.382 (0.314–0.472)	0.590 (0.482–0.730)	0.874 (0.712–1.08)	1.11 (0.900–1.39)	1.45 (1.14–1.87)	1.72 (1.32–2.27)	2.01 (1.51–2.70)	2.31 (1.69–3.20)	2.75 (1.93–3.95)	3.10 (2.11–4.60)
60-min	0.261 (0.213–0.322)	0.403 (0.329–0.498)	0.596 (0.486–0.738)	0.759 (0.614–0.948)	0.990 (0.776–1.28)	1.18 (0.903–1.54)	1.37 (1.03–1.84)	1.58 (1.15–2.18)	1.87 (1.32–2.69)	2.11 (1.44–3.13)
2-hr	0.174 (0.142–0.215)	0.247 (0.202–0.305)	0.347 (0.282–0.429)	0.430 (0.348–0.538)	0.549 (0.430–0.708)	0.644 (0.495–0.846)	0.743 (0.558–1.00)	0.849 (0.621–1.17)	0.997 (0.701–1.43)	1.12 (0.760–1.66)
3-hr	0.136 (0.112–0.169)	0.189 (0.154–0.233)	0.260 (0.212–0.322)	0.320 (0.259–0.399)	0.404 (0.317–0.521)	0.471 (0.362–0.620)	0.542 (0.407–0.729)	0.617 (0.451–0.852)	0.721 (0.507–1.04)	0.805 (0.548–1.20)
6-hr	0.082 (0.067–0.102)	0.111 (0.091–0.137)	0.149 (0.122–0.185)	0.182 (0.147–0.227)	0.227 (0.178–0.293)	0.264 (0.203–0.347)	0.301 (0.226–0.405)	0.341 (0.249–0.471)	0.397 (0.279–0.570)	0.441 (0.300–0.655)
12-hr	0.046 (0.037–0.056)	0.061 (0.050–0.076)	0.083 (0.067–0.103)	0.101 (0.081–0.126)	0.125 (0.098–0.162)	0.145 (0.111–0.191)	0.165 (0.124–0.223)	0.187 (0.136–0.258)	0.216 (0.152–0.311)	0.239 (0.163–0.356)
24-hr	0.026 (0.023–0.031)	0.036 (0.032–0.042)	0.050 (0.044–0.057)	0.061 (0.053–0.071)	0.076 (0.064–0.091)	0.087 (0.073–0.108)	0.100 (0.081–0.125)	0.112 (0.088–0.145)	0.129 (0.098–0.174)	0.142 (0.104–0.199)
2-day	0.016 (0.014–0.018)	0.022 (0.019–0.025)	0.030 (0.026–0.035)	0.037 (0.032–0.043)	0.046 (0.039–0.055)	0.053 (0.044–0.065)	0.060 (0.049–0.076)	0.068 (0.053–0.088)	0.078 (0.059–0.106)	0.087 (0.063–0.121)
3-day	0.011 (0.010–0.013)	0.015 (0.013–0.018)	0.021 (0.019–0.024)	0.026 (0.023–0.030)	0.032 (0.027–0.039)	0.037 (0.031–0.046)	0.043 (0.034–0.054)	0.048 (0.038–0.062)	0.055 (0.042–0.075)	0.061 (0.044–0.085)
4-day	0.008 (0.007–0.010)	0.012 (0.010–0.014)	0.016 (0.014–0.019)	0.020 (0.017–0.023)	0.025 (0.021–0.030)	0.029 (0.024–0.036)	0.033 (0.026–0.041)	0.037 (0.029–0.048)	0.042 (0.032–0.057)	0.047 (0.034–0.065)
7-day	0.005 (0.004–0.006)	0.007 (0.006–0.008)	0.010 (0.009–0.011)	0.012 (0.010–0.014)	0.015 (0.013–0.018)	0.017 (0.014–0.021)	0.019 (0.016–0.025)	0.022 (0.017–0.028)	0.025 (0.019–0.034)	0.027 (0.020–0.038)
10-day	0.004 (0.003–0.004)	0.005 (0.005–0.006)	0.007 (0.006–0.008)	0.009 (0.008–0.010)	0.011 (0.009–0.014)	0.013 (0.011–0.016)	0.014 (0.012–0.018)	0.016 (0.013–0.021)	0.018 (0.014–0.025)	0.020 (0.014–0.028)
20-day	0.002 (0.002–0.002)	0.003 (0.002–0.003)	0.004 (0.004–0.005)	0.005 (0.004–0.006)	0.006 (0.005–0.008)	0.007 (0.006–0.009)	0.008 (0.007–0.011)	0.009 (0.007–0.012)	0.011 (0.008–0.014)	0.012 (0.009–0.016)
30-day	0.001 (0.001–0.001)	0.002 (0.002–0.002)	0.003 (0.003–0.003)	0.004 (0.003–0.004)	0.005 (0.004–0.006)	0.006 (0.005–0.007)	0.006 (0.005–0.008)	0.007 (0.005–0.009)	0.008 (0.006–0.011)	0.009 (0.006–0.013)
45-day	0.001 (0.001–0.001)	0.001 (0.001–0.002)	0.002 (0.002–0.002)	0.003 (0.002–0.003)	0.004 (0.003–0.004)	0.004 (0.003–0.005)	0.005 (0.004–0.006)	0.005 (0.004–0.007)	0.006 (0.005–0.009)	0.007 (0.005–0.010)
60-day	0.001 (0.000–0.001)	0.001 (0.001–0.001)	0.002 (0.001–0.002)	0.002 (0.002–0.003)	0.003 (0.002–0.004)	0.003 (0.003–0.004)	0.004 (0.003–0.005)	0.005 (0.003–0.006)	0.005 (0.004–0.007)	0.006 (0.004–0.008)

VOL ONSITE CN - PREDEV

				100-yr Runoff Vol.		*10-yr Runoff Vol.*	
Basin	**Area (SF)**	**Area (AC)**	**Area (SQ MI)**	**Runoff vol. (ac-ft)**	**Runoff vol. (CF)**	**Runoff vol. (ac-ft)**	**Runoff vol. (CF)**
ON-A	319095	7.33	0.011	-	-	-	-
ON-B	1291130	29.64	0.046	0.00057	24.8	0.00000	0.0
ON-C	1571657	36.08	0.056	0.00069	30.2	0.00000	0.0
ON-D	539539	12.39	0.019	0.00024	10.4	0.00000	0.0

Total Drainage Area

CAD area	3402326	SF	ON-B, ON-C, ON-D
	78.1	AC	
	0.12	SQ. MI.	

use soil group C for hilly area on west side of watershed
use B for low lying areas
Use HEC-HMS

Curve Number Method (100-yr, each basin)

CN, assume Soil Group A,			
desert shrub cover	46.0		
Storage, S	11.74		
Initial Abstraction, IA	2.35		
100-yr, 24-hr Rainfall Depth, P	2.40	IN	
Runoff, Q	0.00023	IN	
Runoff Vol.	0.0015	AC-FT	for ON-B, ON-C, ON-D basins combined
Runoff, Q	0.00023	IN	

Curve Number Method (10-yr, each basin)

CN, assume Soil Group A,			
desert shrub cover	46.0		
Storage, S	11.74		
Initial Abstraction, IA	2.35		
10-yr, 24-hr Rainfall Depth, P	1.47	IN	
Runoff, Q	0.00000	IN	
Runoff Vol.	0.0000	AC-FT	for ON-B, ON-C, ON-D basins combined
Runoff, Q	0.07095	IN	

Source: NRCS National Engineering Handbook

B. NRCS Runoff Equation

(1) The NRCS runoff equation, also referred to as the NRCS CN Method, is a tool used to estimate runoff volume resulting from a storm event. For more information on the development and derivation of the runoff equation, see 210-NEH-630-9 and 210-NEH-630-10, "Estimation of Direct Runoff from Storm Rainfall".

(2) The NRCS runoff equation is:

$$Q = \frac{(P-I_a)^2}{(P-I_a)+S} \quad for\ P > I_a \qquad \text{(eq. 2–1a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-1b)}$$

where: Q = runoff, in
P = rainfall, in
I_a = initial abstraction, in
S = potential maximum retention after runoff begins, in

(3) Initial abstraction (I_a) includes all losses (water retained on the landscape) before runoff begins. It includes water retained in surface depressions, water intercepted by vegetation and other cover, and water lost to evaporation and infiltration. I_a is highly variable but is generally correlated with soil and cover parameters. Through studies of many small agricultural watersheds, researchers found I_a to be approximated by:

$$I_a = 0.2S \qquad \text{(eq. 2–2)}$$

(4) Removing I_a as an independent parameter allows use of a combination of S and P to produce unique runoff volumes. Substituting equation 2–2 into equation 2–1 gives:

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)} \quad for\ P > I_a \qquad \text{(eq. 2–3a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-3b)}$$

VOL ONSITE CN - POSTDEV

				Lag Time			*Rainfall*		*Post-Development CN Method (AMC 2)*			*10-year Runoff (AMC 2)*			*100-year Runoff (AMC 2)*		
Basin	**Area (SF)**	**Area (AC)**	**Area (SQ MI)**	**Total Travel Time (TOC, hr)**	**Total Travel Time (TOC, min)**	**Lag Time (min)**	**10-yr, 24-hr**	**100-yr, 24-hr**	**Post-Dev CN (AMC 2)**	**Storage, S**	**Initial Abstraction, IA**	**Runoff, Q (in)**	**Runoff vol. (cf)**	**Runoff vol. (ac-ft)**	**Runoff, Q (in)**	**Runoff vol. (cf)**	**Runoff vol. (ac-ft)**
ON-A	319095	7.33	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ON-B	1291130	29.64	0.046	0.81	48.63	29.2	1.47	2.40	48.8	10.5	2.10	0.000	0.0	0.0	0.009	919.6	0.0
ON-C	1571657	36.08	0.056	0.44	26.39	15.8	1.47	2.40	73.9	3.5	0.71	0.135	17735.7	0.4	0.548	71795.0	1.6
ON-D	539539	12.39	0.019	0.69	41.22	24.7	1.47	2.40	49.6	10.2	2.03	0.000	0.0	0.0	0.013	574.0	0.0

Source: NRCS National Engineering Handbook

B. NRCS Runoff Equation

(1) The NRCS runoff equation, also referred to as the NRCS CN Method, is a tool used to estimate runoff volume resulting from a storm event. For more information on the development and derivation of the runoff equation, see 210-NEH-630-9 and 210-NEH-630-10, "Estimation of Direct Runoff from Storm Rainfall".

(2) The NRCS runoff equation is:

$$Q = \frac{(P-I_a)^2}{(P-I_a)+S} \quad for\ P > I_a \qquad \text{(eq. 2–1a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-1b)}$$

where: Q = runoff, in
P = rainfall, in
I_a = initial abstraction, in
S = potential maximum retention after runoff begins, in

(3) Initial abstraction (I_a) includes all losses (water retained on the landscape) before runoff begins. It includes water retained in surface depressions, water intercepted by vegetation and other cover, and water lost to evaporation and infiltration. I_a is highly variable but is generally correlated with soil and cover parameters. Through studies of many small agricultural watersheds, researchers found I_a to be approximated by:

$$I_a = 0.2S \qquad \text{(eq. 2–2)}$$

(4) Removing I_a as an independent parameter allows use of a combination of S and P to produce unique runoff volumes. Substituting equation 2–2 into equation 2–1 gives:

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)} \quad for\ P > I_a \qquad \text{(eq. 2–3a)}$$

$$Q = 0 \quad for\ P \leq I_a \qquad \text{(eq. 2-3b)}$$

POINT PRECIPIATION FREQUENCY ESTIMATES (INCHES)
NOAA Atlas 14 Volume 6 Version 2
Data type: Precipitation depth
Time series type: Partial duration
Project area: Southwest
Location n: California USA
Station Name: -
Latitude: 34.8977 Degree
Longitude: -116.8483 Degree
Elevation (USGS): 1948 ft
Date/time (GMT): Mon Jun 2 17:27:55 2025

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.960 (0.792-1.19)	1.49 (1.21-1.84)	2.21 (1.80-2.74)	2.81 (2.27-3.50)	3.66 (2.87-4.72)	4.34 (3.34-5.71)	5.06 (3.80-6.82)	5.83 (4.27-8.06)	6.92 (4.87-9.95)	7.81 (5.32-11.6)
10-min	0.690 (0.564-0.852)	1.07 (0.870-1.32)	1.58 (1.29-1.96)	2.01 (1.63-2.51)	2.62 (2.06-3.38)	3.11 (2.39-4.09)	3.63 (2.73-4.88)	4.18 (3.06-5.78)	4.96 (3.49-7.13)	5.59 (3.80-8.30)
15-min	0.556 (0.456-0.688)	0.860 (0.704-1.06)	1.27 (1.04-1.58)	1.62 (1.31-2.03)	2.12 (1.66-2.73)	2.51 (1.93-3.30)	2.93 (2.20-3.94)	3.37 (2.47-4.66)	4.00 (2.81-5.75)	4.51 (3.07-6.70)
30-min	0.382 (0.314-0.472)	0.590 (0.482-0.730)	0.874 (0.712-1.08)	1.11 (0.900-1.39)	1.45 (1.14-1.87)	1.72 (1.32-2.27)	2.01 (1.51-2.70)	2.31 (1.69-3.20)	2.75 (1.93-3.95)	3.10 (2.11-4.60)
60-min	0.261 (0.213-0.322)	0.403 (0.329-0.498)	0.596 (0.486-0.738)	0.759 (0.614-0.948)	0.990 (0.776-1.28)	1.18 (0.903-1.54)	1.37 (1.03-1.84)	1.58 (1.15-2.18)	1.87 (1.32-2.69)	2.11 (1.44-3.13)
2-hr	0.174 (0.142-0.215)	0.247 (0.202-0.305)	0.347 (0.282-0.429)	0.430 (0.348-0.538)	0.549 (0.430-0.708)	0.644 (0.495-0.846)	0.743 (0.558-1.00)	0.849 (0.621-1.17)	0.997 (0.701-1.43)	1.12 (0.760-1.66)
3-hr	0.136 (0.112-0.169)	0.189 (0.154-0.233)	0.260 (0.212-0.322)	0.320 (0.259-0.399)	0.404 (0.317-0.521)	0.471 (0.362-0.620)	0.542 (0.407-0.729)	0.617 (0.451-0.852)	0.721 (0.507-1.04)	0.805 (0.548-1.20)
6-hr	0.082 (0.067-0.102)	0.111 (0.091-0.137)	0.149 (0.122-0.185)	0.182 (0.147-0.227)	0.227 (0.178-0.293)	0.264 (0.203-0.347)	0.301 (0.226-0.405)	0.341 (0.249-0.471)	0.397 (0.279-0.570)	0.441 (0.300-0.655)
12-hr	0.046 (0.037-0.056)	0.061 (0.050-0.076)	0.083 (0.067-0.103)	0.101 (0.081-0.126)	0.125 (0.099-0.162)	0.145 (0.111-0.191)	0.165 (0.124-0.223)	0.187 (0.136-0.258)	0.216 (0.152-0.311)	0.239 (0.163-0.356)
24-hr	0.026 (0.023-0.031)	0.035 (0.032-0.042)	0.050 (0.044-0.057)	0.061 (0.053-0.071)	0.076 (0.064-0.091)	0.087 (0.073-0.108)	0.100 (0.081-0.125)	0.112 (0.088-0.145)	0.129 (0.099-0.174)	0.142 (0.104-0.199)
2-day	0.016 (0.014-0.018)	0.022 (0.019-0.025)	0.030 (0.026-0.035)	0.037 (0.032-0.043)	0.046 (0.039-0.055)	0.053 (0.044-0.065)	0.060 (0.049-0.076)	0.068 (0.053-0.088)	0.078 (0.059-0.106)	0.087 (0.063-0.121)
3-day	0.011 (0.010-0.013)	0.015 (0.013-0.018)	0.021 (0.019-0.024)	0.026 (0.023-0.030)	0.032 (0.027-0.039)	0.037 (0.031-0.046)	0.043 (0.034-0.054)	0.048 (0.038-0.063)	0.055 (0.042-0.075)	0.061 (0.044-0.085)
4-day	0.008 (0.007-0.010)	0.012 (0.010-0.014)	0.016 (0.014-0.019)	0.020 (0.017-0.023)	0.025 (0.021-0.030)	0.029 (0.024-0.036)	0.033 (0.026-0.041)	0.037 (0.029-0.048)	0.042 (0.032-0.057)	0.047 (0.034-0.065)
7-day	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.010 (0.009-0.011)	0.012 (0.010-0.014)	0.015 (0.013-0.018)	0.017 (0.014-0.021)	0.019 (0.016-0.025)	0.022 (0.017-0.028)	0.025 (0.019-0.034)	0.027 (0.020-0.038)
10-day	0.004 (0.003-0.004)	0.005 (0.005-0.006)	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.011 (0.009-0.014)	0.013 (0.011-0.016)	0.014 (0.012-0.018)	0.016 (0.013-0.021)	0.018 (0.014-0.025)	0.020 (0.014-0.028)
20-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.004-0.005)	0.005 (0.004-0.006)	0.006 (0.005-0.008)	0.007 (0.006-0.009)	0.008 (0.007-0.011)	0.009 (0.007-0.012)	0.011 (0.008-0.014)	0.012 (0.008-0.016)
30-day	0.001 (0.001-0.001)	0.002 (0.002-0.002)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.006 (0.005-0.007)	0.006 (0.005-0.008)	0.007 (0.005-0.009)	0.008 (0.006-0.011)	0.009 (0.006-0.013)
45-day	0.001 (0.001-0.001)	0.001 (0.001-0.002)	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.003-0.004)	0.004 (0.003-0.005)	0.005 (0.004-0.006)	0.005 (0.004-0.007)	0.006 (0.005-0.009)	0.007 (0.005-0.010)
60-day	0.001 (0.000-0.001)	0.001 (0.001-0.001)	0.002 (0.001-0.002)	0.002 (0.002-0.003)	0.003 (0.002-0.004)	0.003 (0.003-0.004)	0.004 (0.003-0.005)	0.005 (0.003-0.006)	0.005 (0.004-0.007)	0.006 (0.004-0.008)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.080 (0.066-0.099)	0.124 (0.101-0.153)	0.184 (0.150-0.228)	0.234 (0.189-0.292)	0.305 (0.239-0.393)	0.362 (0.278-0.475)	0.422 (0.317-0.568)	0.486 (0.356-0.672)	0.577 (0.406-0.829)	0.651 (0.443-0.966)
10-min	0.115 (0.094-0.142)	0.178 (0.145-0.220)	0.263 (0.215-0.326)	0.335 (0.271-0.419)	0.437 (0.343-0.564)	0.519 (0.399-0.682)	0.605 (0.455-0.814)	0.697 (0.510-0.963)	0.827 (0.582-1.19)	0.932 (0.634-1.38)
15-min	0.139 (0.114-0.172)	0.215 (0.176-0.266)	0.318 (0.260-0.395)	0.406 (0.328-0.507)	0.529 (0.415-0.682)	0.628 (0.483-0.825)	0.732 (0.550-0.985)	0.843 (0.617-1.16)	1.00 (0.703-1.44)	1.13 (0.767-1.67)
30-min	0.191 (0.157-0.236)	0.295 (0.241-0.365)	0.437 (0.356-0.542)	0.557 (0.450-0.695)	0.726 (0.569-0.936)	0.862 (0.662-1.13)	1.00 (0.755-1.35)	1.16 (0.847-1.60)	1.37 (0.966-1.97)	1.55 (1.05-2.30)
60-min	0.261 (0.213-0.322)	0.403 (0.329-0.498)	0.596 (0.486-0.738)	0.759 (0.614-0.948)	0.990 (0.776-1.28)	1.18 (0.903-1.54)	1.37 (1.03-1.84)	1.58 (1.15-2.18)	1.87 (1.32-2.69)	2.11 (1.44-3.13)
2-hr	0.348 (0.285-0.430)	0.494 (0.404-0.611)	0.694 (0.565-0.859)	0.861 (0.697-1.08)	1.10 (0.861-1.42)	1.29 (0.990-1.69)	1.49 (1.12-2.00)	1.70 (1.24-2.35)	2.00 (1.40-2.87)	2.23 (1.52-3.32)
3-hr	0.411 (0.337-0.508)	0.568 (0.464-0.702)	0.782 (0.637-0.968)	0.961 (0.778-1.20)	1.22 (0.952-1.56)	1.42 (1.09-1.86)	1.63 (1.22-2.19)	1.85 (1.36-2.56)	2.17 (1.52-3.11)	2.42 (1.65-3.59)
6-hr	0.496 (0.406-0.612)	0.667 (0.545-0.824)	0.898 (0.732-1.11)	1.09 (0.883-1.36)	1.36 (1.07-1.76)	1.58 (1.22-2.06)	1.81 (1.36-2.43)	2.05 (1.50-2.83)	2.38 (1.67-3.42)	2.64 (1.80-3.92)
12-hr	0.555 (0.454-0.685)	0.746 (0.610-0.922)	1.00 (0.818-1.24)	1.22 (0.986-1.52)	1.52 (1.19-1.96)	1.75 (1.35-2.30)	2.00 (1.50-2.69)	2.26 (1.65-3.12)	2.61 (1.84-3.75)	2.89 (1.97-4.29)
24-hr	0.647 (0.574-0.745)	0.886 (0.795-1.02)	1.20 (1.06-1.39)	1.47 (1.28-1.71)	1.83 (1.55-2.20)	2.11 (1.75-2.59)	2.40 (1.94-3.02)	2.70 (2.13-3.50)	3.11 (2.30-4.20)	3.43 (2.50-4.79)
2-day	0.781 (0.693-0.898)	1.07 (0.950-1.24)	1.46 (1.29-1.69)	1.78 (1.56-2.07)	2.22 (1.88-2.67)	2.56 (2.13-3.15)	2.92 (2.36-3.67)	3.28 (2.59-4.25)	3.78 (2.86-5.11)	4.16 (3.05-5.83)
3-day	0.823 (0.730-0.947)	1.14 (1.01-1.31)	1.55 (1.37-1.79)	1.89 (1.66-2.20)	2.36 (2.00-2.84)	2.73 (2.26-3.35)	3.10 (2.51-3.90)	3.48 (2.74-4.51)	4.01 (3.03-5.41)	4.42 (3.23-6.17)
4-day	0.849 (0.753-0.976)	1.18 (1.04-1.36)	1.61 (1.42-1.86)	1.96 (1.72-2.29)	2.45 (2.08-2.94)	2.82 (2.34-3.46)	3.19 (2.59-4.02)	3.58 (2.62-4.64)	4.11 (3.11-5.54)	4.52 (3.30-6.31)
7-day	0.904 (0.802-1.04)	1.26 (1.12-1.45)	1.73 (1.53-2.00)	2.10 (1.84-2.45)	2.61 (2.21-3.14)	2.98 (2.48-3.66)	3.36 (2.72-4.23)	3.74 (2.94-4.64)	4.24 (3.20-5.72)	4.61 (3.37-6.44)
10-day	0.965 (0.856-1.11)	1.36 (1.20-1.56)	1.86 (1.65-2.15)	2.26 (1.99-2.64)	2.80 (2.37-3.37)	3.19 (2.65-3.92)	3.58 (2.90-4.51)	3.97 (3.13-5.14)	4.48 (3.39-6.00)	4.86 (3.55-6.79)
20-day	1.11 (0.983-1.27)	1.58 (1.40-1.82)	2.19 (1.94-2.53)	2.67 (2.34-3.11)	3.32 (2.81-3.99)	3.79 (3.15-4.66)	4.26 (3.46-5.37)	4.73 (3.73-6.12)	5.33 (4.03-7.20)	5.78 (4.22-8.07)
30-day	1.23 (1.09-1.41)	1.76 (1.56-2.03)	2.46 (2.17-2.84)	3.02 (2.65-3.52)	3.78 (3.20-4.54)	4.34 (3.60-5.33)	4.90 (3.97-6.17)	5.46 (4.30-7.06)	6.18 (4.67-8.34)	6.71 (4.90-9.37)
45-day	1.37 (1.22-1.58)	1.98 (1.75-2.28)	2.78 (2.46-3.21)	3.44 (3.01-4.00)	4.34 (3.68-5.22)	5.03 (4.18-6.18)	5.72 (4.63-7.20)	6.41 (5.05-8.30)	7.32 (5.54-9.66)	8.00 (5.84-11.2)
60-day	1.49 (1.32-1.71)	2.14 (1.90-2.47)	3.03 (2.68-3.50)	3.77 (3.30-4.39)	4.79 (4.06-5.77)	5.59 (4.64-6.87)	6.40 (5.19-8.06)	7.22 (5.69-9.35)	8.32 (6.29-11.2)	9.14 (6.68-12.8)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

REFERENCES

Source: NRCS National Engineering Handbook

A simplified version of the Manning's kinematic solution may be used to compute travel time for sheet flow. This simplified form of the kinematic equation was developed by Welle and Woodward (1986) after studying the impact of various parameters on the estimates.

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \qquad \text{(eq. 15–8)}$$

where:
T_t = travel time, h
n = Manning's roughness coefficient (table 15–1)
ℓ = sheet flow length, ft
P_2 = 2-year, 24-hour rainfall, in
S = slope of land surface, ft/ft

Table 15–1 Manning's roughness coefficients for sheet flow (flow depth generally ≤ 0.1 ft)

Surface description	n [1/]
Smooth surface (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover ≤ 20%	0.06
Residue cover > 20%	0.17
Grass:	
Short-grass prairie	0.15
Dense grasses [2/]	0.24
Bermudagrass	0.41
Range (natural)	0.13
Woods: [3/]	
Light underbrush	0.40
Dense underbrush	0.80

1 The Manning's n values are a composite of information compiled by Engman (1986).
2 Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.
3 When selecting n, consider cover to a height of about 0.1 ft. This is the only part of the plant cover that will obstruct sheet flow.

Source: NRCS National Engineering Handbook

B. NRCS Runoff Equation

(1) The NRCS runoff equation, also referred to as the NRCS CN Method, is a tool used to estimate runoff volume resulting from a storm event. For more information on the development and derivation of the runoff equation, see 210-NEH-630-9 and 210-NEH-630-10, "Estimation of Direct Runoff from Storm Rainfall".

(2) The NRCS runoff equation is:

$$Q = \frac{(P-I_a)^2}{(P-I_a)+S} \quad \text{for } P > I_a \qquad \text{(eq. 2–1a)}$$

$$Q = 0 \quad \text{for } P \leq I_a \qquad \text{(eq. 2-1b)}$$

where: Q = runoff, in
P = rainfall, in
I_a = initial abstraction, in
S = potential maximum retention after runoff begins, in

(3) Initial abstraction (I_a) includes all losses (water retained on the landscape) before runoff begins. It includes water retained in surface depressions, water intercepted by vegetation and other cover, and water lost to evaporation and infiltration. I_a is highly variable but is generally correlated with soil and cover parameters. Through studies of many small agricultural watersheds, researchers found I_a to be approximated by:

$$I_a = 0.2S \qquad \text{(eq. 2–2)}$$

(4) Removing I_a as an independent parameter allows use of a combination of S and P to produce unique runoff volumes. Substituting equation 2–2 into equation 2–1 gives:

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)} \quad \text{for } P > I_a \qquad \text{(eq. 2–3a)}$$

$$Q = 0 \quad \text{for } P \leq I_a \qquad \text{(eq. 2-3b)}$$



Source: NRCS National Engineering Handbook

(e) Relation between lag and time of concentration

Various researchers (Mockus 1957; Simas 1996) found that for average natural watershed conditions and an approximately uniform distribution of runoff:

$$L = 0.6T_c \qquad \text{(eq. 15–3)}$$

where:
L = lag, h
T_c = time of concentration, h

REFERENCES

Source: San Bernardino County Hydrology Manual

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparral, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	71	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent.)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	25	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		77	86	91	94

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

CURVE NUMBERS FOR PERVIOUS AREAS

Figure C-3 (1 of 2)

Curve (1) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (Continued)					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87

Notes:

1. All curve numbers are for Antecedent Moisture Condition (AMC) II.
2. Quality of cover definitions:

   Poor-Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.

   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.
3. See Figure C-2 for definition of cover types.

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

CURVE NUMBERS FOR PERVIOUS AREAS

C-7

Figure C-3 (2 of 2)

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent (2)
Natural or Agriculture	0 - 0	0
Public Park	10 - 25	15
School	30 - 50	40
Single Family Residential: (3)		
2.5 acre lots	5 - 15	10
1 acre lots	10 - 25	20
2 dwellings/acre	20 - 40	30
3-4 dwellings/acre	30 - 50	40
5-7 dwellings/acre	35 - 55	50
8-10 dwellings/acre	50 - 70	60
More than 10 dwellings/acre	65 - 90	80
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 - 100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area shall always be made, and a review of aerial photos, where available, may assist in estimating the percentage of impervious cover in developed areas.
3. For typical equestrian subdivisions increase impervious area 5 percent over the values recommended in the table above.

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

ACTUAL IMPERVIOUS COVER FOR DEVELOPED AREAS

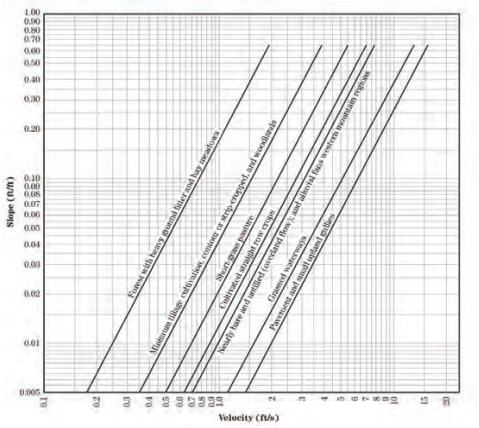
C-8

Figure C-4

REFERENCES

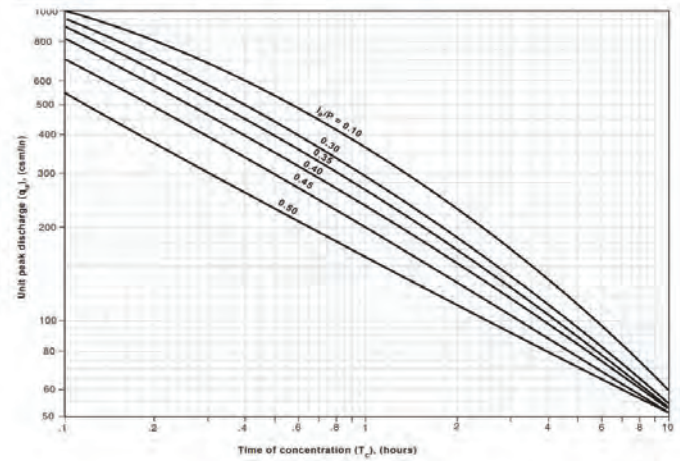
Source: NRCS National Engineering Handbook

Figure 15–4 Velocity versus slope for shallow concentrated flow



Source: NRCS National Engineering Handbook

Exhibit 4-II Unit peal discharge (q_u) for NRCS (SCS) type II rainfall distribution



Source: Design Hydrology and Sedimentology for Small Catchments, Haan, Barfield, Hayes

Design Hydrology and Sedimentology for Small Catchments

C. T. Haan
Biosystems and Agricultural Engineering Department
Oklahoma State University
Stillwater, Oklahoma

B. J. Barfield
Biosystems and Agricultural Engineering Department
Oklahoma State University
Stillwater, Oklahoma

J. C. Hayes
Agricultural and Biological Engineering Department
Clemson University
Clemson, South Carolina

1994

Academic Press
A Division of Harcourt Brace & Company
San Diego New York Boston London Sydney Tokyo Toronto

Rational Method pp. 83-85 Haan et al., 1994.

Table 3.24 Runoff Coefficients

Urban areas The use of average coefficients for various surface types, which are assumed not to vary through the duration of the storm, is common. The range of coefficients, classified with respect to the general character of the tributary reported in use is:

Description of area	Runoff coefficients
Business	
Downtown areas	0.70 to 0.95
Neighborhood areas	0.50 to 0.70
Residential	
Single-family areas	0.30 to 0.50
Multiunits, detached	0.40 to 0.60
Multiunits, attached	0.60 to 0.75
Residential (suburban)	0.25 to 0.40
Apartment dwelling areas	0.50 to 0.70
Industrial	
Light areas	0.50 to 0.80
Heavy areas	0.60 to 0.90
Parks, cemeteries	0.10 to 0.25
Playgrounds	0.20 to 0.35
Railroad yard areas	0.20 to 0.35
Unimproved areas	0.10 to 0.30

Note: It is often desirable to develop a composite runoff coefficient based on the percentage of different types of surface in the drainage area. This procedure is often applied to typical 'sample' blocks as a guide to selection of reasonable values of the coefficient for an entire area. Coefficients with respect to surface type currently in use are:

Character of surface	Runoff coefficients
Streets	
Asphaltic and concrete	0.70 to 0.95
Brick	0.70 to 0.85
Roofs	0.75 to 0.95
Lawns; sandy soil	
Flat, 2%	0.05 to 0.10
Average, 2 to 7%	0.10 to 0.15
Steep, 7%	0.15 to 0.20
Lawns, heavy soil	
Flat, 2%	0.13 to 0.17
Average, 2 to 7%	0.18 to 0.22
Steep, 7%	0.25 to 0.35

Note: The coefficients in these two tabulations are applicable for storms of 5-year to 10-year frequencies. Less frequent higher intensity storms will require the use of higher coefficients because infiltration and other losses have a proportionally smaller effect on runoff. The coefficients are based on the assumption that the design storm does not occur when the ground surface is frozen.

Table 3.24—*Continued*

Rural areas

Topography and vegetation	Soil texture: Open sandy loam	Clay and silt loam	Tight clay
Woodland			
Flat 0–5% slope	0.10	0.30	0.40
Rolling 5–10% slope	0.25	0.35	0.50
Hilly 10–30% slope	0.30	0.50	0.60
Pasture			
Flat	0.10	0.30	0.40
Rolling	0.16	0.36	0.55
Hilly	0.22	0.42	0.60
Cultivated			
Flat	0.30	0.50	0.60
Rolling	0.40	0.60	0.70
Hilly	0.52	0.72	0.82

Appendix C-2 HEC-HMS



Offsite and onsite basins are labeled in HEC HMS as Ex offsite basin and EX ON-1 through ON-4, respectively. In the report text, offsite and onsite basins are titled as OS-1 and ON-A through ON-D, respectively.

Project: Yermo

Simulation Run: Ex_Cond_24hr_10yr_SCS_Type2

Simulation Start: 31 July 2024, 24:00

Simulation End: 3 August 2024, 24:00

HMS Version: 4.13

Executed: 12 June 2025, 16:58

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Ex offsite basin	1.3
EX ON - 1	0.01
EX ON - 2	0.05
EX ON - 3	0.06
EX ON - 4	0.02

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number	Initial Abstraction
Ex offsite basin	0	67.2	0.98
EX ON - 1	0	46	2.35
EX ON - 2	0	46	2.35
EX ON - 3	0	46	2.35
EX ON - 4	0	46	2.35

Transform: Scs

Element Name	Lag	Unitgraph Type
Ex offsite basin	114.1	Standard
EX ON - 1	18.9	Standard
EX ON - 2	18.7	Standard
EX ON - 3	19.1	Standard
EX ON - 4	24.7	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)

Ex offsite basin	1.3	3.69	01Aug2024, 16:35	0.04
EX ON - 1	0.01	0	31Jul2024, 24:00	0
EX ON - 2	0.05	0	31Jul2024, 24:00	0
EX ON - 3	0.06	0	31Jul2024, 24:00	0
EX ON - 4	0.02	0	31Jul2024, 24:00	0

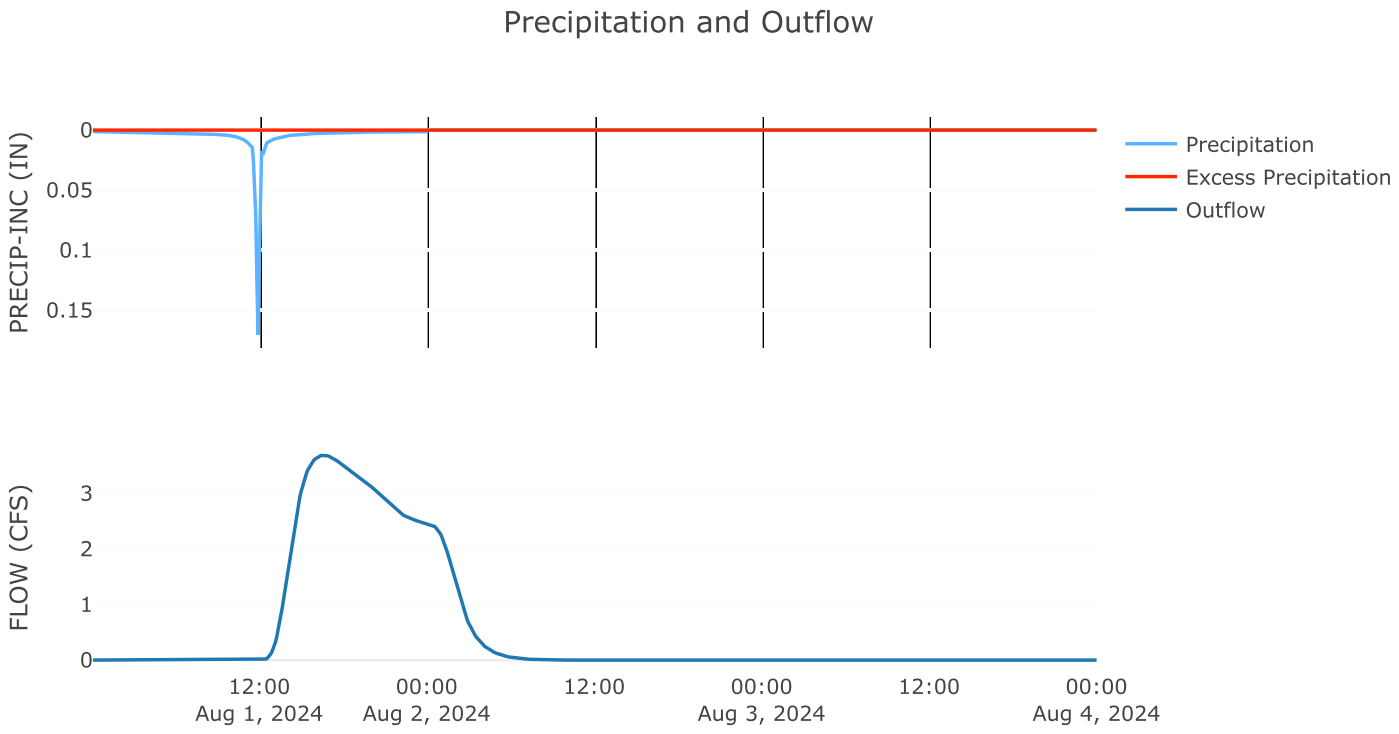
Subbasin: Ex offsite basin

Area (MI2) : 1.3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	67.2
Initial Abstraction	0.98

Transform: Scs	
Lag	114.1
Unitgraph Type	Standard

Results: Ex offsite basin	
Peak Discharge (CFS)	3.69
Time of Peak Discharge	01Aug2024, 16:35
Volume (IN)	0.04
Precipitation Volume (AC - FT)	101.92
Loss Volume (AC - FT)	98.82
Excess Volume (AC - FT)	3.1
Direct Runoff Volume (AC - FT)	3.1
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
3
2
1
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

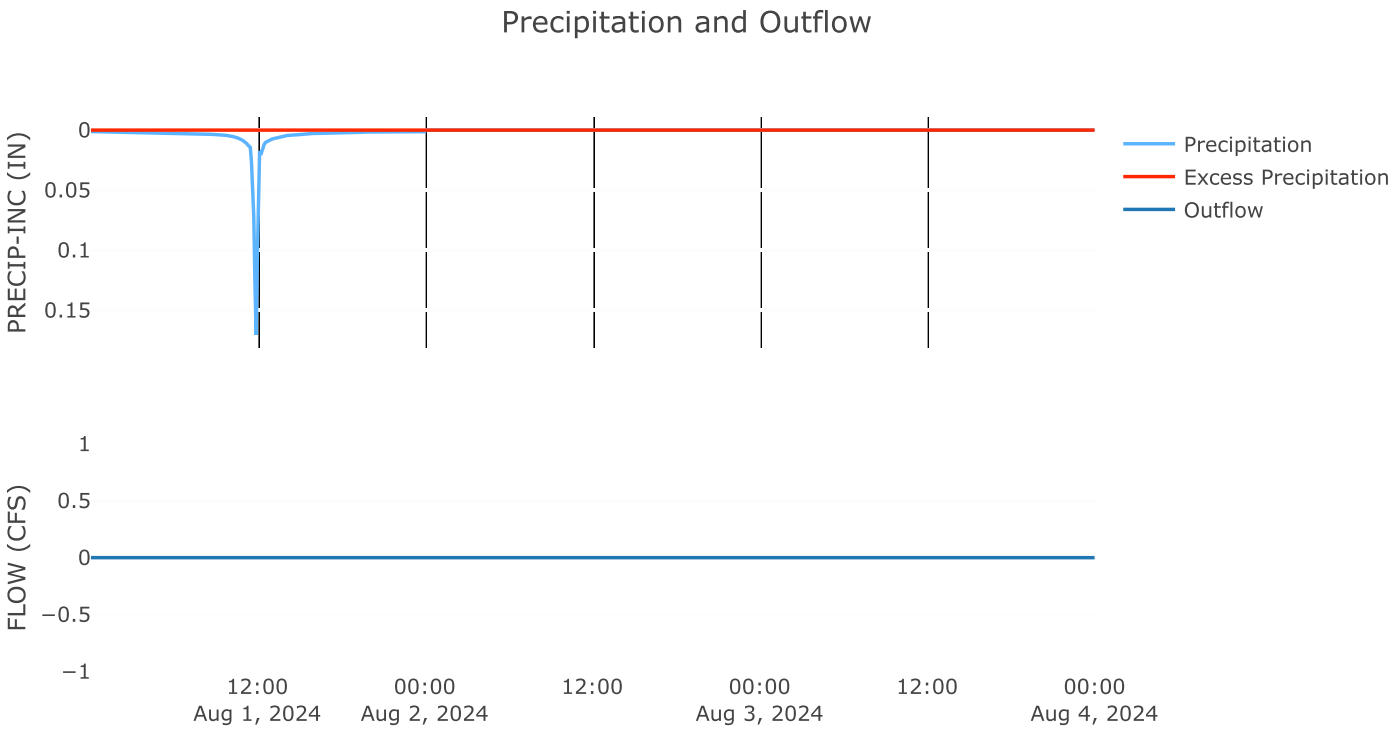
Subbasin: EX ON-1

Area (MI2) : 0.01

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	18.9
Unitgraph Type	Standard

Results: EX ON-1	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	0.86
Loss Volume (AC - FT)	0.86
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

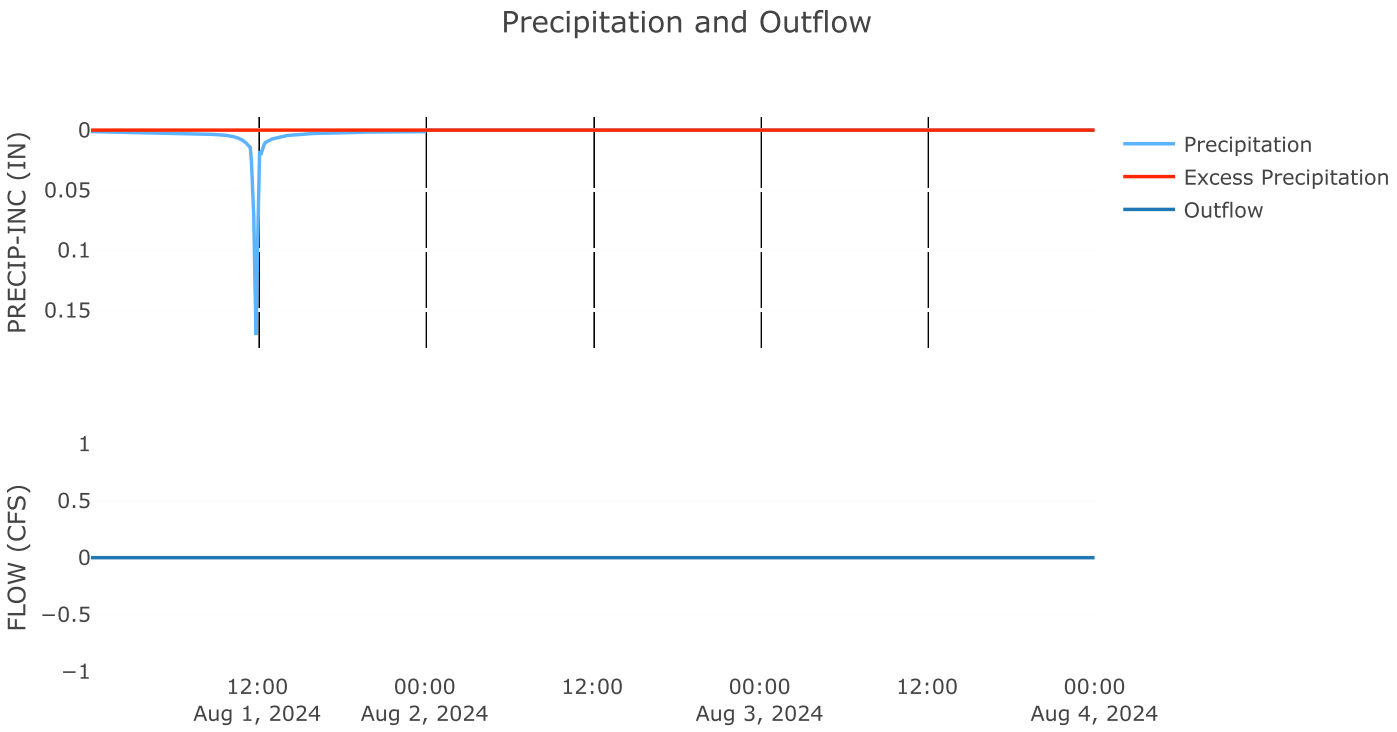
Subbasin: EX ON-2

Area (MI2) : 0.05

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	18.7
Unitgraph Type	Standard

Results: EX ON-2	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	3.61
Loss Volume (AC - FT)	3.61
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

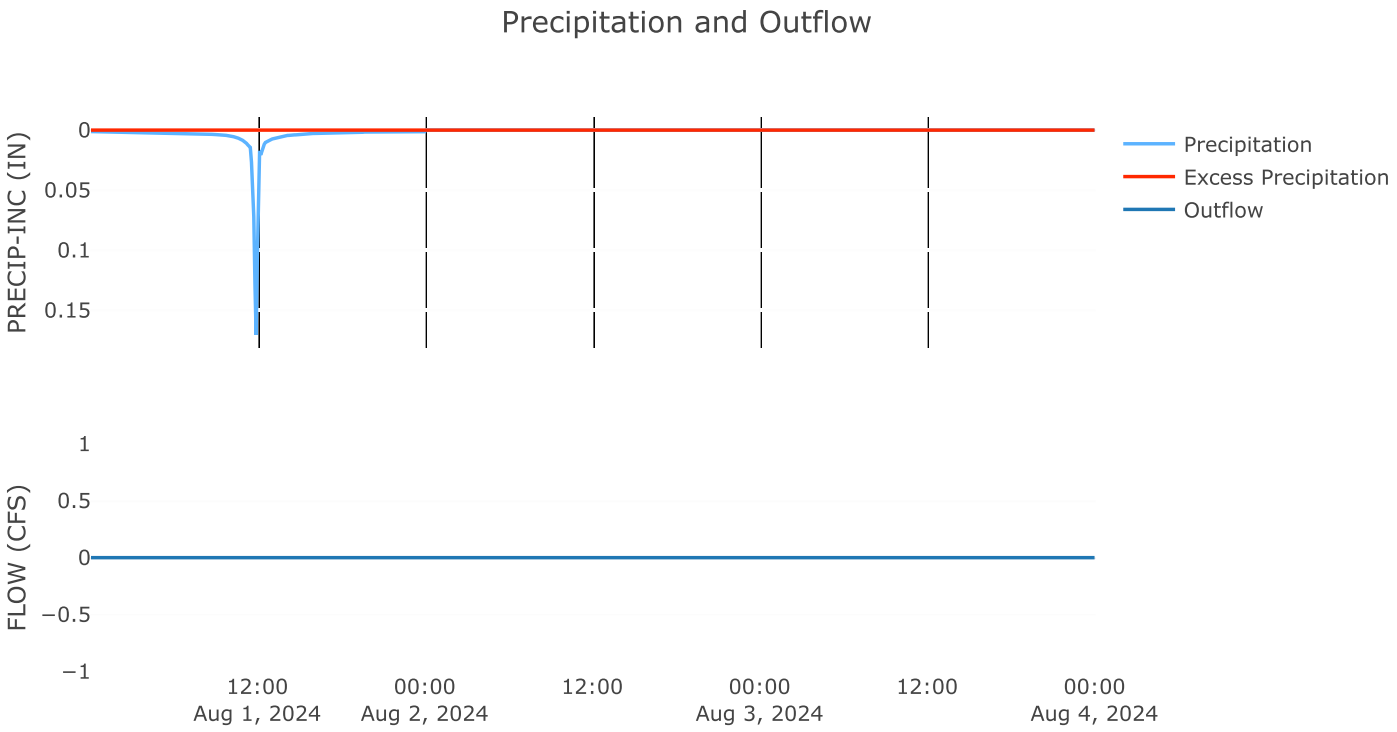
Subbasin: EX ON-3

Area (MI2) : 0.06

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	19.1
Unitgraph Type	Standard

Results: EX ON-3	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	4.39
Loss Volume (AC - FT)	4.39
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

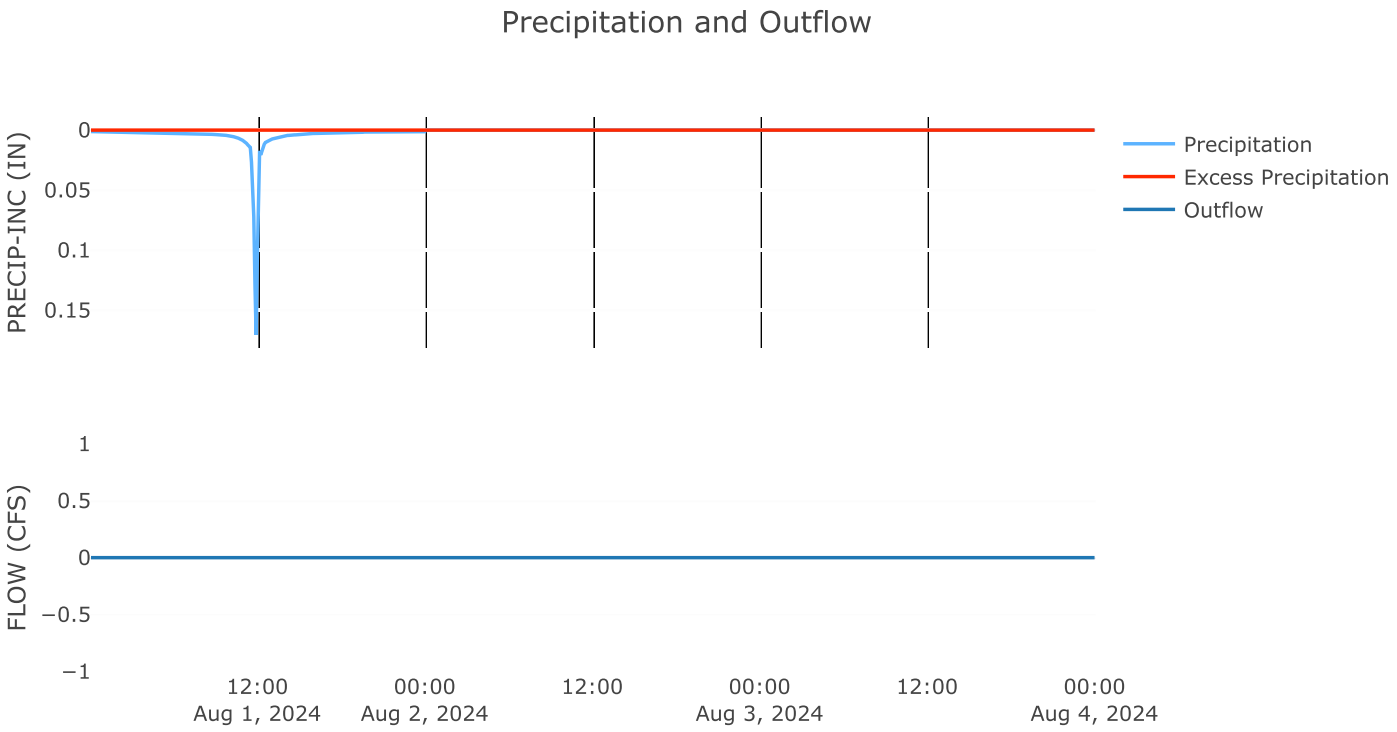
Subbasin: EX ON-4

Area (MI2) : 0.02

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	24.7
Unitgraph Type	Standard

Results: EX ON-4	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	1.49
Loss Volume (AC - FT)	1.49
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

Project: Yermo
Simulation Run: Ex_Cond_24hr_100yr_SCS_Type2
Simulation Start: 31 July 2024, 24:00
Simulation End: 3 August 2024, 24:00

HMS Version: 4.13
Executed: 12 June 2025, 17:02

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Ex offsite basin	1.3
EX ON - 1	0.01
EX ON - 2	0.05
EX ON - 3	0.06
EX ON - 4	0.02

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number	Initial Abstraction
Ex offsite basin	0	67.2	0.98
EX ON - 1	0	46	2.35
EX ON - 2	0	46	2.35
EX ON - 3	0	46	2.35
EX ON - 4	0	46	2.35

Transform: Scs

Element Name	Lag	Unitgraph Type
Ex offsite basin	114.1	Standard
EX ON - 1	18.9	Standard
EX ON - 2	18.7	Standard
EX ON - 3	19.1	Standard
EX ON - 4	24.7	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)

Ex offsite basin	1.3	44.49	01Aug2024, 14:25	0.32
EX ON - 1	0.01	0	02Aug2024, 00:05	0
EX ON - 2	0.05	0.01	02Aug2024, 00:05	0
EX ON - 3	0.06	0.01	02Aug2024, 00:05	0
EX ON - 4	0.02	0	02Aug2024, 00:10	0

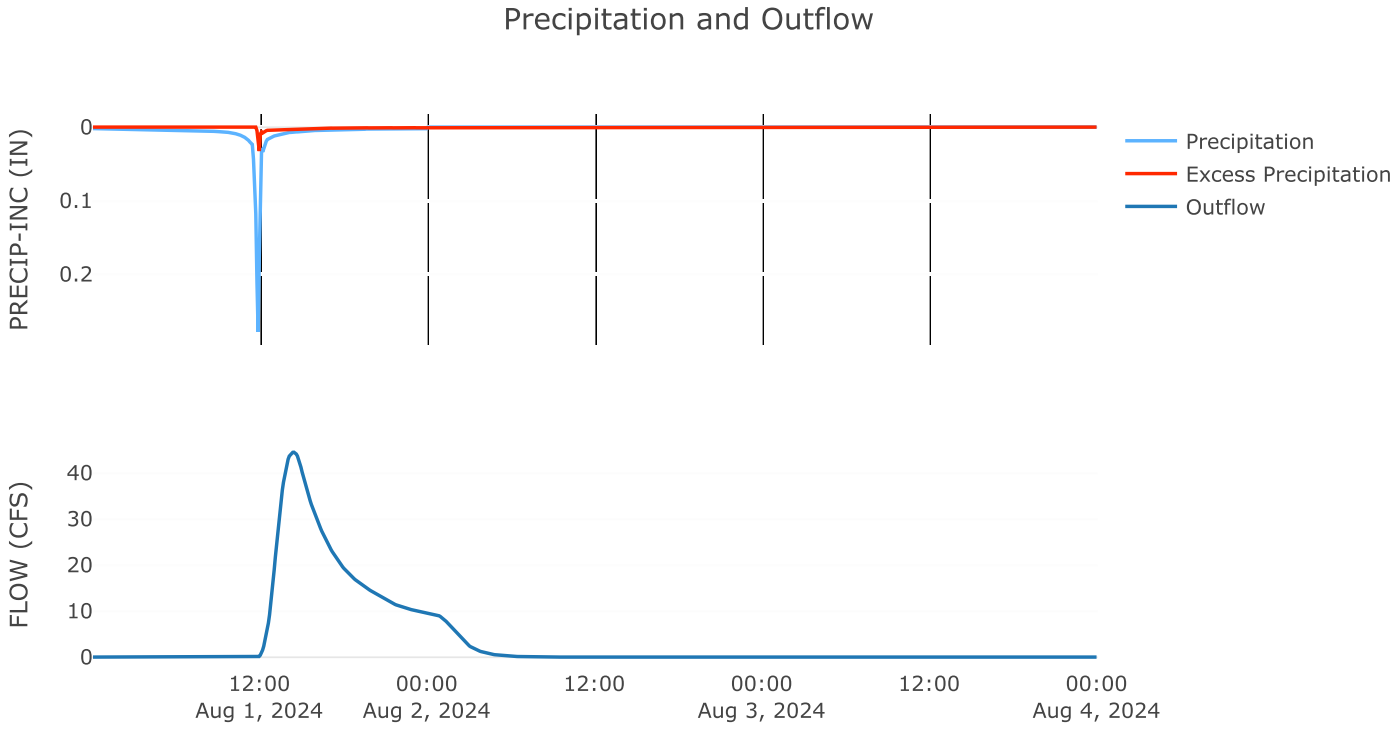
Subbasin: Ex offsite basin

Area (MI2) : 1.3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	67.2
Initial Abstraction	0.98

Transform: Scs	
Lag	114.1
Unitgraph Type	Standard

Results: Ex offsite basin	
Peak Discharge (CFS)	44.49
Time of Peak Discharge	01Aug2024, 14:25
Volume (IN)	0.32
Precipitation Volume (AC - FT)	166.4
Loss Volume (AC - FT)	144.21
Excess Volume (AC - FT)	22.19
Direct Runoff Volume (AC - FT)	22.19
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
40
30
20
10
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

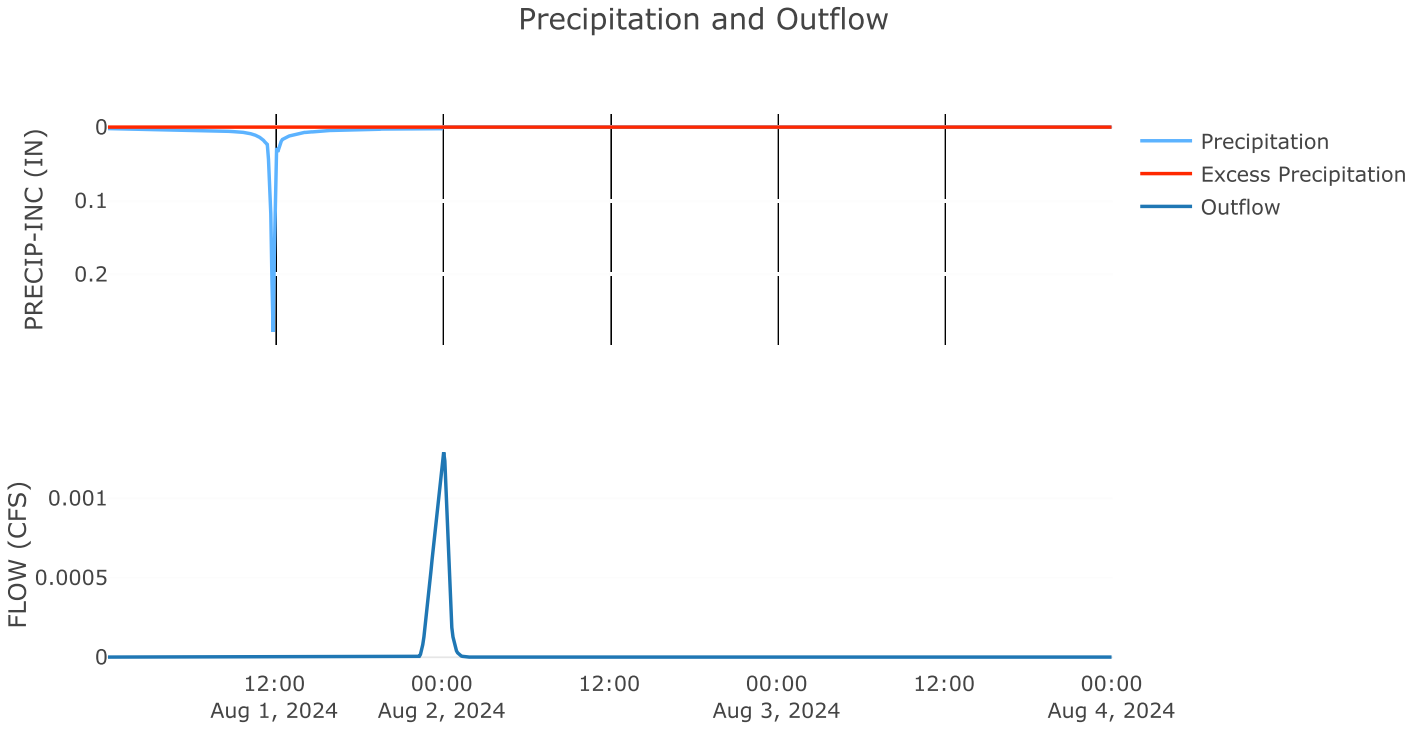
Subbasin: EX ON-1

Area (MI2) : 0.01

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	18.9
Unitgraph Type	Standard

Results: EX ON-1	
Peak Discharge (CFS)	0
Time of Peak Discharge	02Aug2024, 00:05
Volume (IN)	0
Precipitation Volume (AC - FT)	1.41
Loss Volume (AC - FT)	1.41
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
0.001
0.0005
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

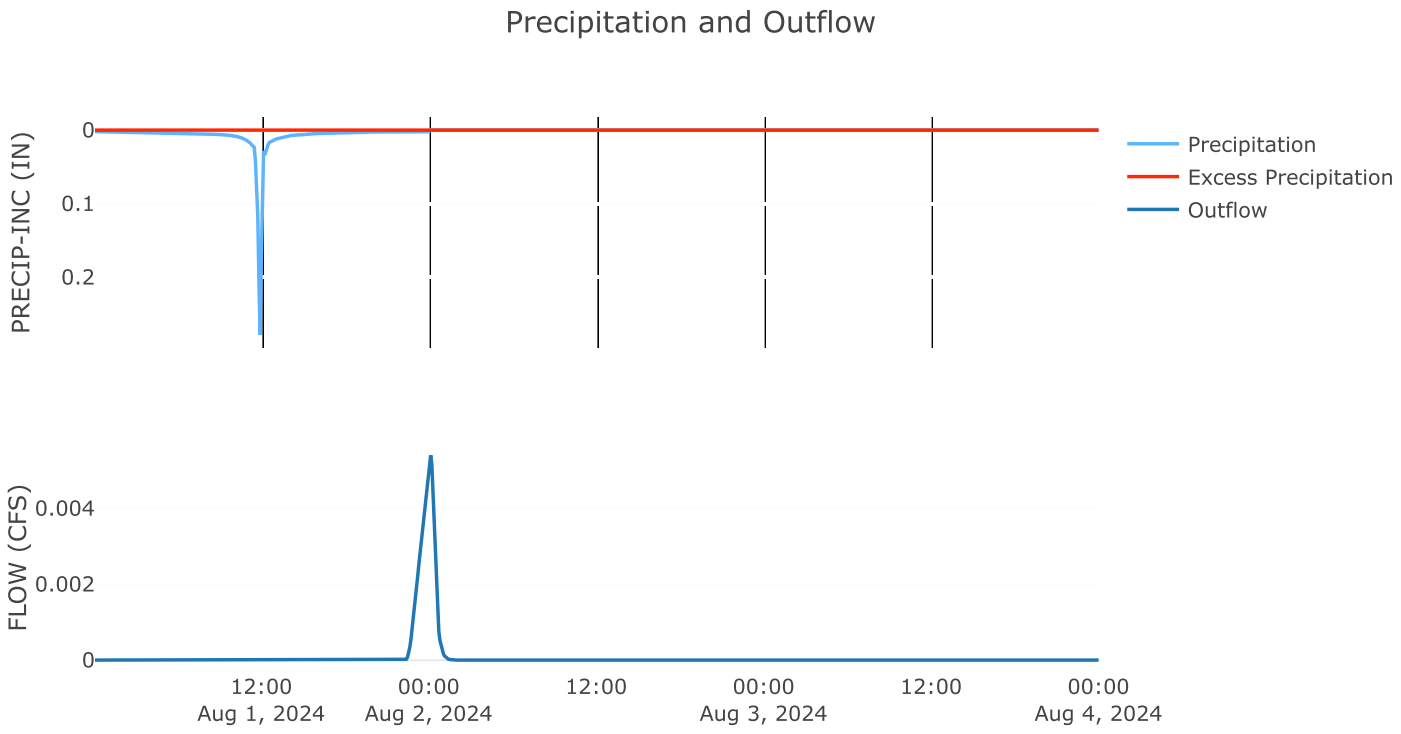
Subbasin: EX ON-2

Area (MI2) : 0.05

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	18.7
Unitgraph Type	Standard

Results: EX ON-2	
Peak Discharge (CFS)	0.01
Time of Peak Discharge	02Aug2024, 00:05
Volume (IN)	0
Precipitation Volume (AC - FT)	5.89
Loss Volume (AC - FT)	5.89
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
FLOW (CFS)
0.004
0.002
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

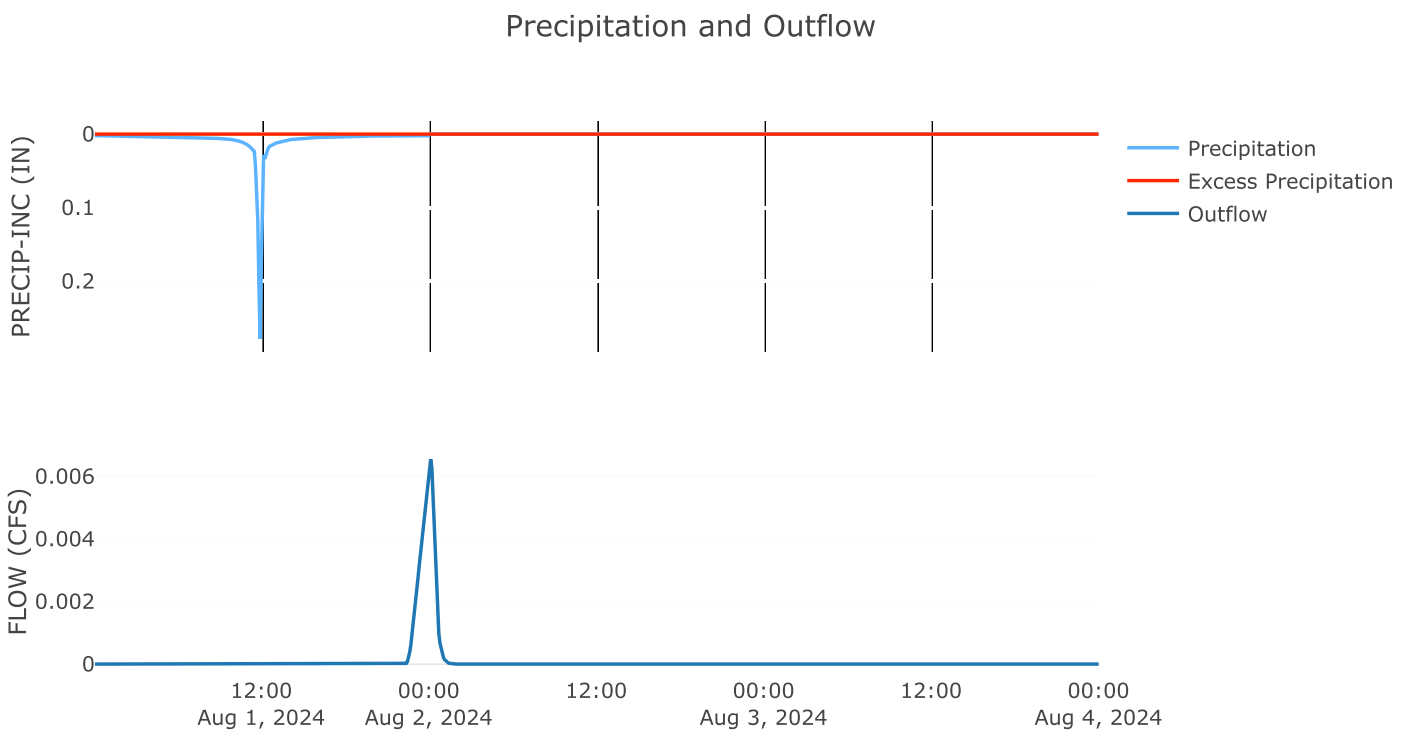
Subbasin: EX ON-3

Area (MI2) : 0.06

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	19.1
Unitgraph Type	Standard

Results: EX ON-3	
Peak Discharge (CFS)	0.01
Time of Peak Discharge	02Aug2024, 00:05
Volume (IN)	0
Precipitation Volume (AC - FT)	7.17
Loss Volume (AC - FT)	7.17
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
0.006
0.004
0.002
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

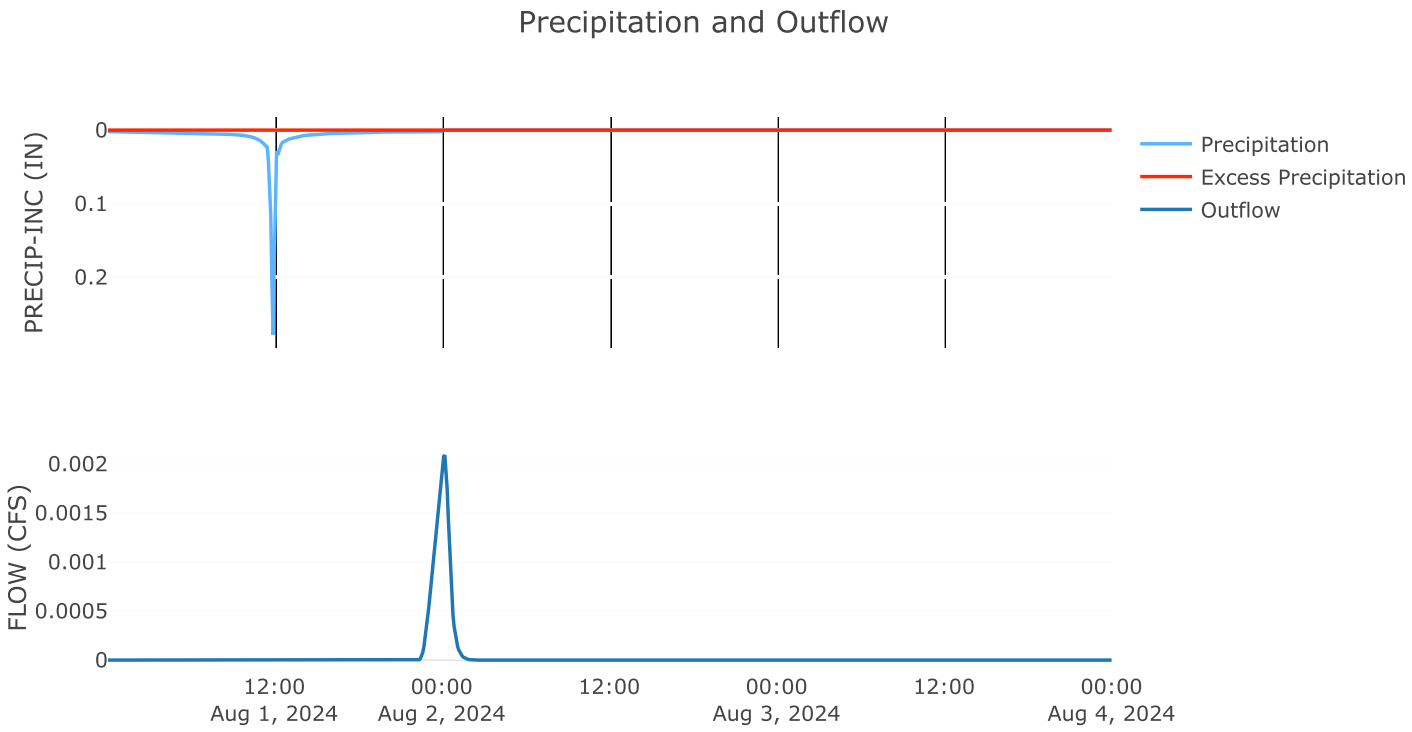
Subbasin: EX ON-4

Area (MI2) : 0.02

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46
Initial Abstraction	2.35

Transform: Scs	
Lag	24.7
Unitgraph Type	Standard

Results: EX ON-4	
Peak Discharge (CFS)	0
Time of Peak Discharge	02Aug2024, 00:10
Volume (IN)	0
Precipitation Volume (AC - FT)	2.43
Loss Volume (AC - FT)	2.43
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
0.002
0.0015
0.001
0.0005
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

Project: Yermo
Simulation Run: Post-Dev_24hr10yr_SCS_Typ2
Simulation Start: 31 July 2024, 24:00
Simulation End: 3 August 2024, 24:00

HMS Version: 4.13
Executed: 12 June 2025, 16:49

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Ex offsite basin	1.3
EX ON - 1	0.01
EX ON - 2	0.05
EX ON - 3	0.06
EX ON - 4	0.02

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number	Initial Abstraction
Ex offsite basin	0	67.2	0.98
EX ON - 1	0	46.6	2.29
EX ON - 2	0	48.8	2.1
EX ON - 3	0	73.9	0.71
EX ON - 4	0	49.6	2.03

Transform: Scs

Element Name	Lag	Unitgraph Type
Ex offsite basin	114.1	Standard
EX ON - 1	25.7	Standard
EX ON - 2	29.2	Standard
EX ON - 3	15.8	Standard
EX ON - 4	24.7	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)

Ex offsite basin	1.3	3.69	01Aug2024, 16:35	0.04
EX ON - 1	0.01	0	31Jul2024, 24:00	0
EX ON - 2	0.05	0	31Jul2024, 24:00	0
EX ON - 3	0.06	2	01Aug2024, 12:15	0.13
EX ON - 4	0.02	0	31Jul2024, 24:00	0

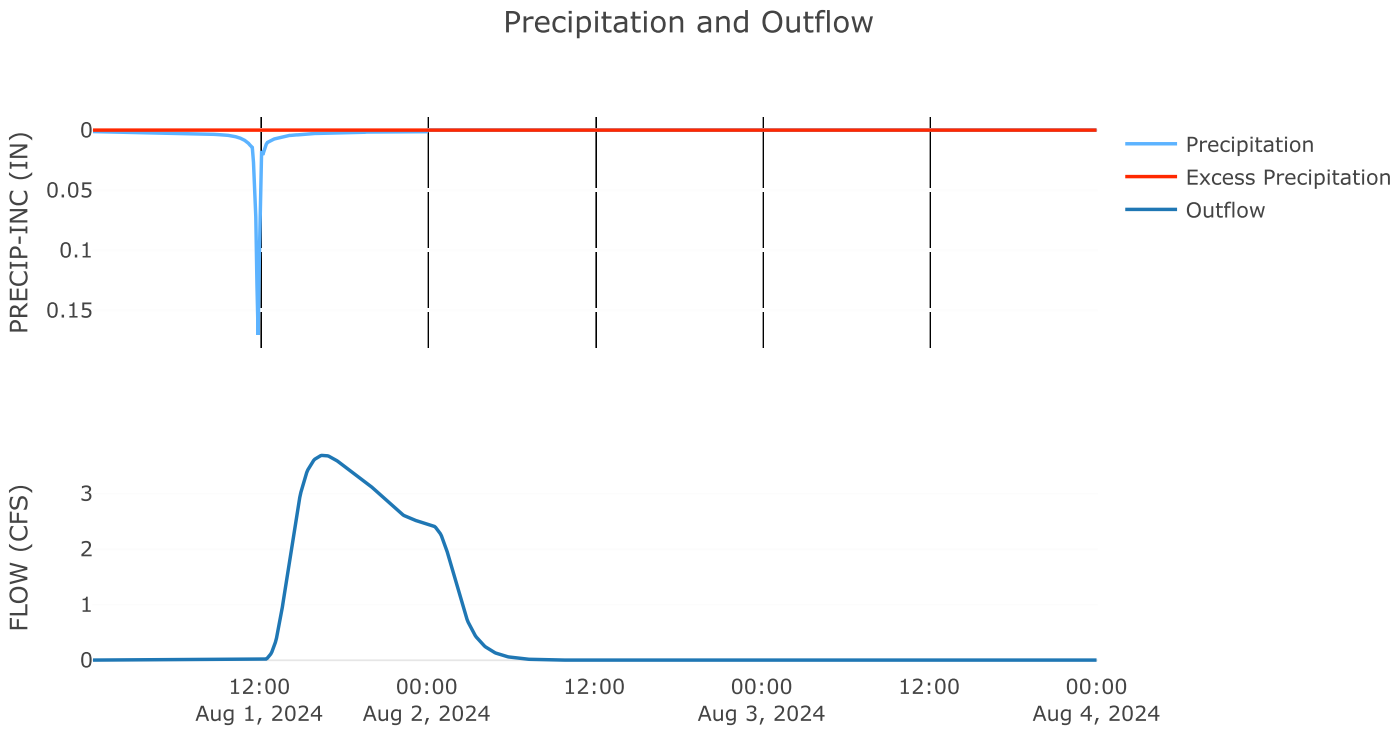
Subbasin: Ex offsite basin

Area (MI2) : 1.3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	67.2
Initial Abstraction	0.98

Transform: Scs	
Lag	114.1
Unitgraph Type	Standard

Results: Ex offsite basin	
Peak Discharge (CFS)	3.69
Time of Peak Discharge	01Aug2024, 16:35
Volume (IN)	0.04
Precipitation Volume (AC - FT)	101.92
Loss Volume (AC - FT)	98.82
Excess Volume (AC - FT)	3.1
Direct Runoff Volume (AC - FT)	3.1
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
3
2
1
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

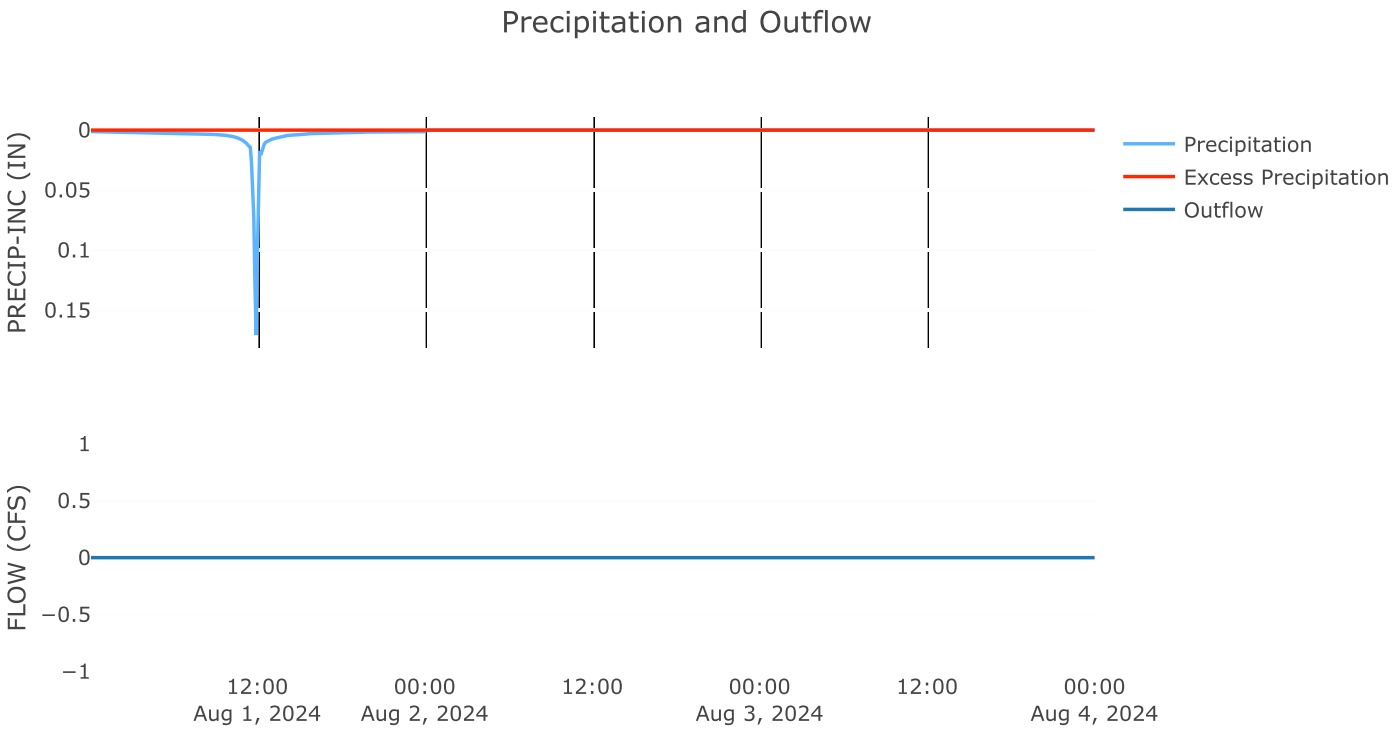
Subbasin: EX ON-1

Area (MI2) : 0.01

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46.6
Initial Abstraction	2.29

Transform: Scs	
Lag	25.7
Unitgraph Type	Standard

Results: EX ON-1	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	0.86
Loss Volume (AC - FT)	0.86
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

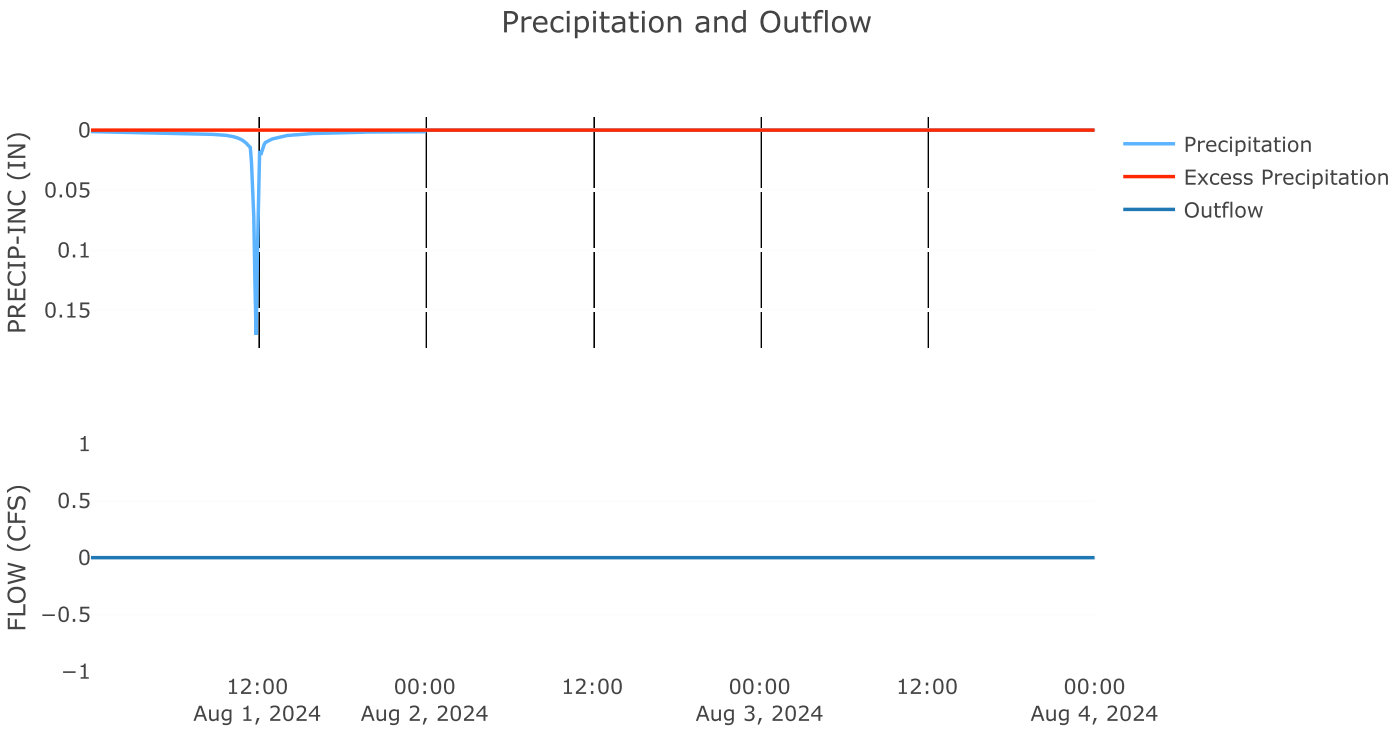
Subbasin: EX ON-2

Area (MI2) : 0.05

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	48.8
Initial Abstraction	2.1

Transform: Scs	
Lag	29.2
Unitgraph Type	Standard

Results: EX ON-2	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	3.61
Loss Volume (AC - FT)	3.61
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

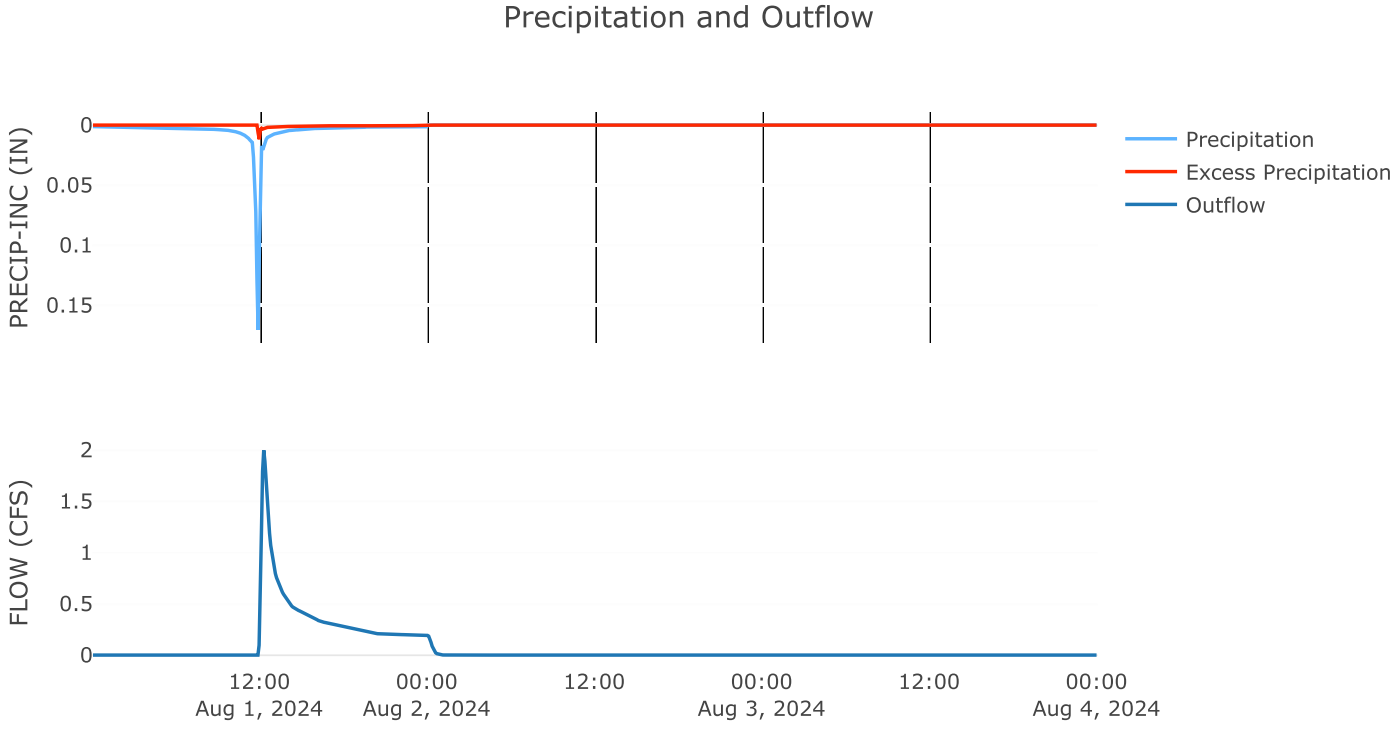
Subbasin: EX ON-3

Area (MI2) : 0.06

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73.9
Initial Abstraction	0.71

Transform: Scs	
Lag	15.8
Unitgraph Type	Standard

Results: EX ON-3	
Peak Discharge (CFS)	2
Time of Peak Discharge	01Aug2024, 12:15
Volume (IN)	0.13
Precipitation Volume (AC - FT)	4.39
Loss Volume (AC - FT)	3.99
Excess Volume (AC - FT)	0.4
Direct Runoff Volume (AC - FT)	0.4
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
2
1.5
1
0.5
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

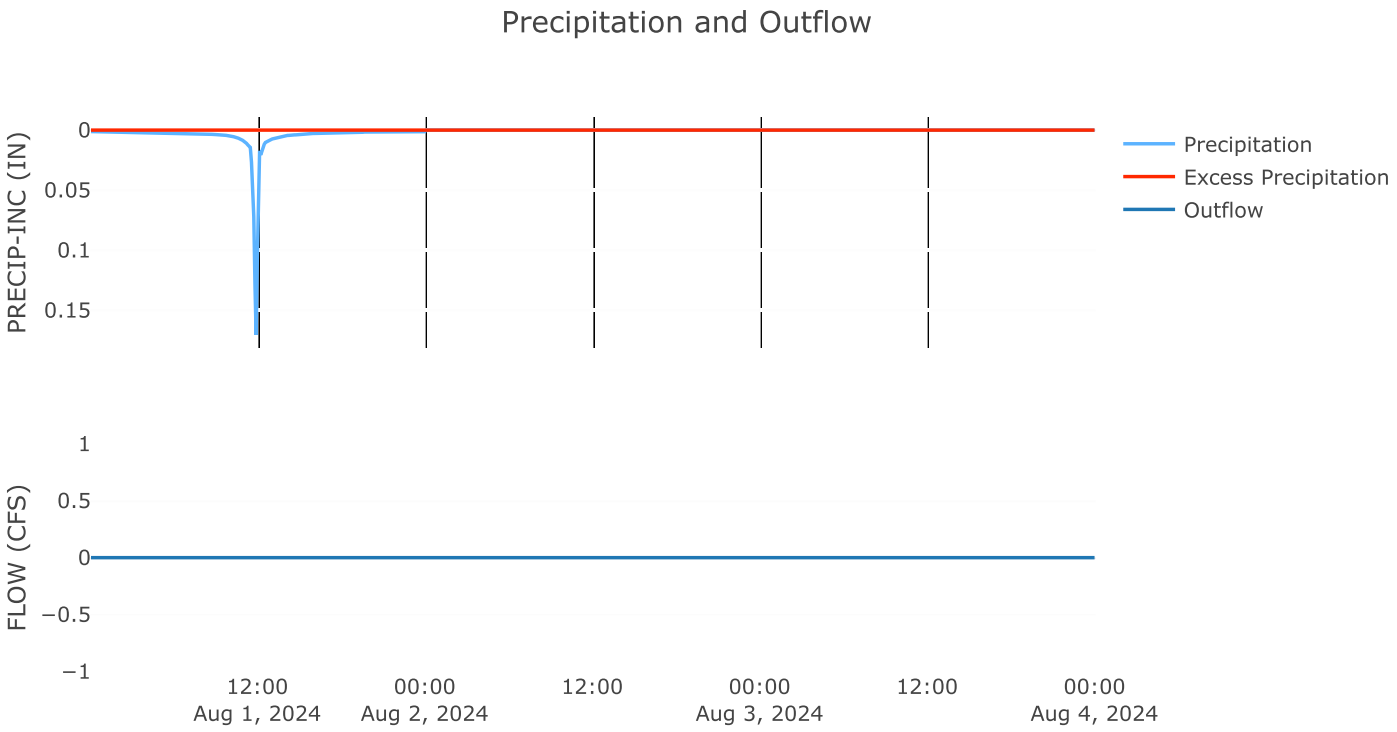
Subbasin: EX ON-4

Area (MI2) : 0.02

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	49.6
Initial Abstraction	2.03

Transform: Scs	
Lag	24.7
Unitgraph Type	Standard

Results: EX ON-4	
Peak Discharge (CFS)	0
Time of Peak Discharge	31Jul2024, 24:00
Volume (IN)	0
Precipitation Volume (AC - FT)	1.49
Loss Volume (AC - FT)	1.49
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.05
0.1
0.15
FLOW (CFS)
1
0.5
0
−0.5
−1
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

Project: Yermo
Simulation Run: Post-Dev_24hr100yr_SCS_Typ2
Simulation Start: 31 July 2024, 24:00
Simulation End: 3 August 2024, 24:00

HMS Version: 4.13
Executed: 12 June 2025, 16:51

Global Parameter Summary - Subbasin

Area (MI2)

Element Name	Area (MI2)
Ex offsite basin	1.3
EX ON - 1	0.01
EX ON - 2	0.05
EX ON - 3	0.06
EX ON - 4	0.02

Loss Rate: Scs

Element Name	Percent Impervious Area	Curve Number	Initial Abstraction
Ex offsite basin	0	67.2	0.98
EX ON - 1	0	46.6	2.29
EX ON - 2	0	48.8	2.1
EX ON - 3	0	73.9	0.71
EX ON - 4	0	49.6	2.03

Transform: Scs

Element Name	Lag	Unitgraph Type
Ex offsite basin	114.1	Standard
EX ON - 1	25.7	Standard
EX ON - 2	29.2	Standard
EX ON - 3	15.8	Standard
EX ON - 4	24.7	Standard

Global Results Summary

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)

Ex offsite basin	1.3	44.49	01Aug2024, 14:25	0.32
EX ON - 1	0.01	0	02Aug2024, 00:05	0
EX ON - 2	0.05	0.04	01Aug2024, 24:00	0.01
EX ON - 3	0.06	15.06	01Aug2024, 12:10	0.55
EX ON - 4	0.02	0.02	01Aug2024, 24:00	0.01

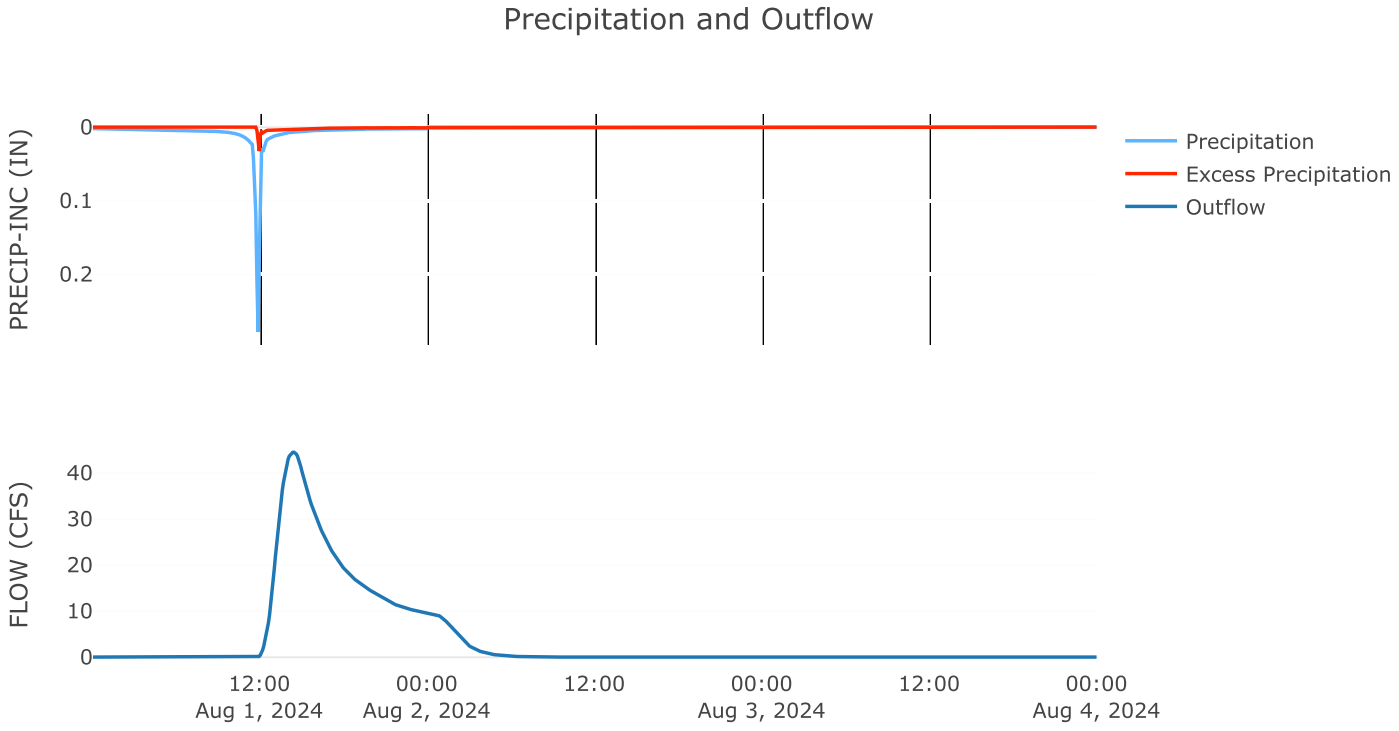
Subbasin: Ex offsite basin

Area (MI2) : 1.3

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	67.2
Initial Abstraction	0.98

Transform: Scs	
Lag	114.1
Unitgraph Type	Standard

Results: Ex offsite basin	
Peak Discharge (CFS)	44.49
Time of Peak Discharge	01Aug2024, 14:25
Volume (IN)	0.32
Precipitation Volume (AC - FT)	166.4
Loss Volume (AC - FT)	144.21
Excess Volume (AC - FT)	22.19
Direct Runoff Volume (AC - FT)	22.19
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
40
30
20
10
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

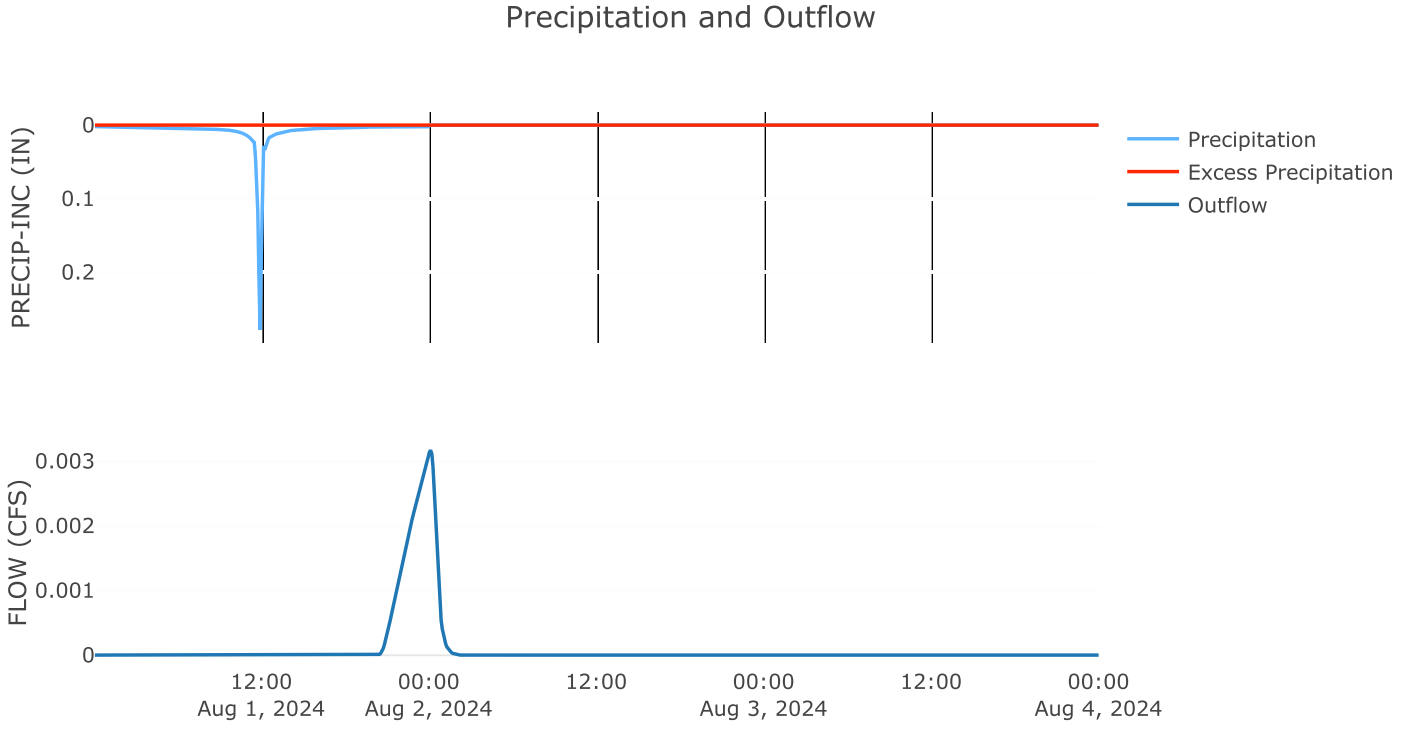
Subbasin: EX ON-1

Area (MI2) : 0.01

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	46.6
Initial Abstraction	2.29

Transform: Scs	
Lag	25.7
Unitgraph Type	Standard

Results: EX ON-1	
Peak Discharge (CFS)	0
Time of Peak Discharge	02Aug2024, 00:05
Volume (IN)	0
Precipitation Volume (AC - FT)	1.41
Loss Volume (AC - FT)	1.41
Excess Volume (AC - FT)	0
Direct Runoff Volume (AC - FT)	0
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
Precipitation
Excess Precipitation
Outflow
FLOW (CFS)
0.003
0.002
0.001
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024

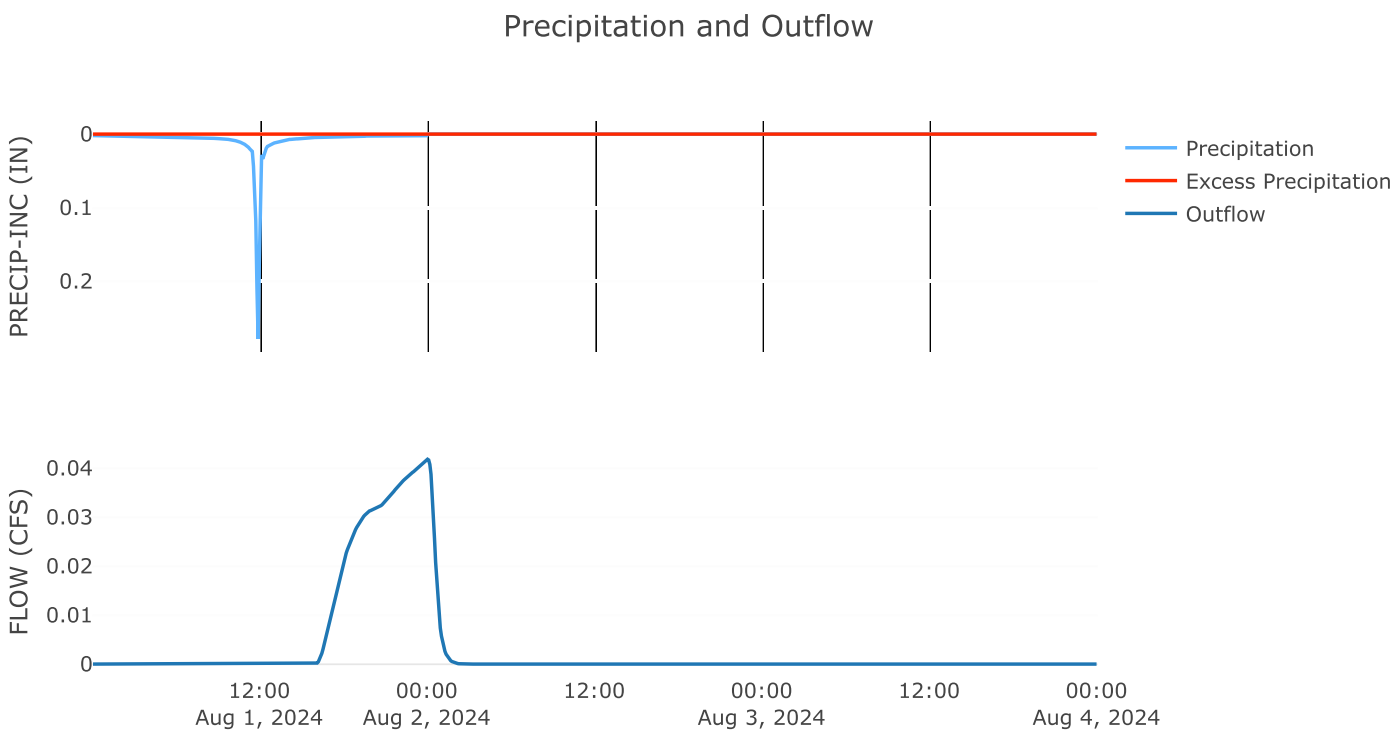
Subbasin: EX ON-2

Area (MI2) : 0.05

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	48.8
Initial Abstraction	2.1

Transform: Scs	
Lag	29.2
Unitgraph Type	Standard

Results: EX ON-2	
Peak Discharge (CFS)	0.04
Time of Peak Discharge	01Aug2024, 24:00
Volume (IN)	0.01
Precipitation Volume (AC - FT)	5.89
Loss Volume (AC - FT)	5.87
Excess Volume (AC - FT)	0.02
Direct Runoff Volume (AC - FT)	0.02
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
FLOW (CFS)
0.04
0.03
0.02
0.01
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

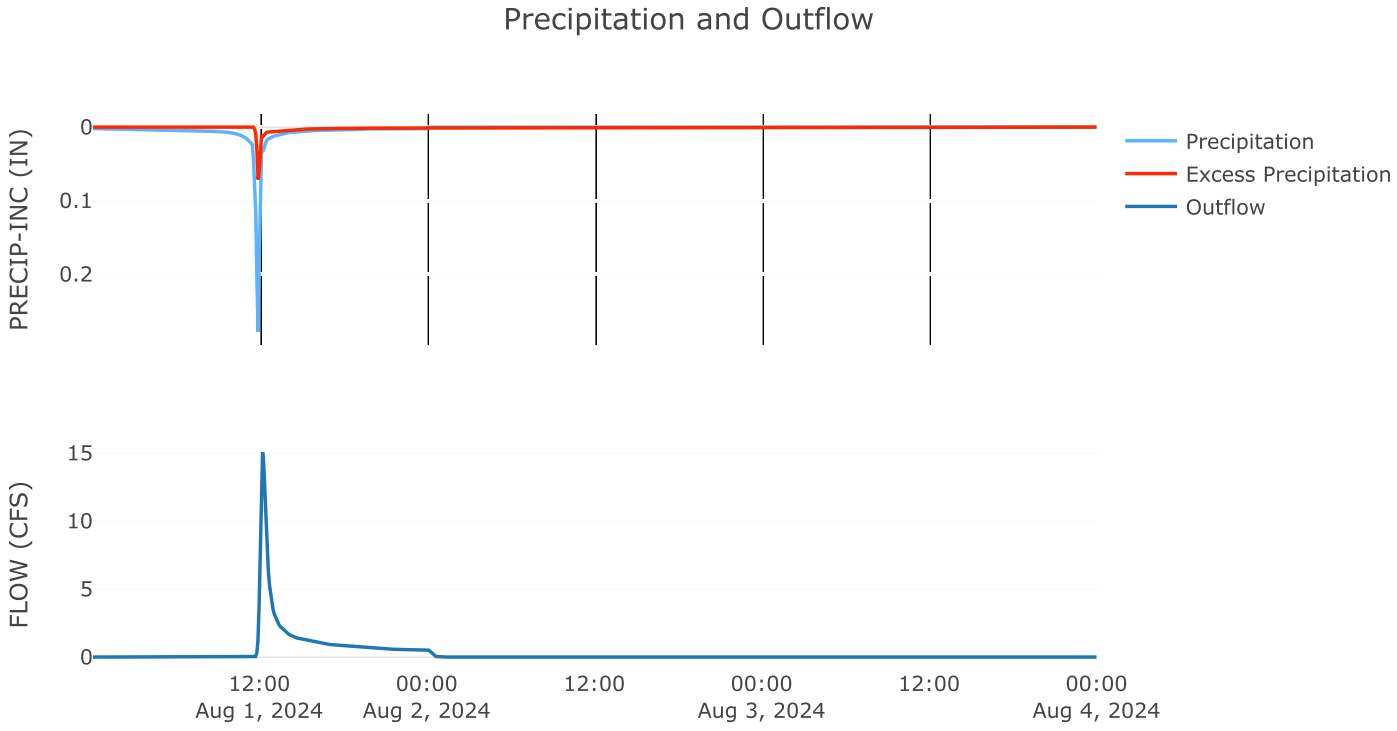
Subbasin: EX ON-3

Area (MI2) : 0.06

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	73.9
Initial Abstraction	0.71

Transform: Scs	
Lag	15.8
Unitgraph Type	Standard

Results: EX ON-3	
Peak Discharge (CFS)	15.06
Time of Peak Discharge	01Aug2024, 12:10
Volume (IN)	0.55
Precipitation Volume (AC - FT)	7.17
Loss Volume (AC - FT)	5.53
Excess Volume (AC - FT)	1.63
Direct Runoff Volume (AC - FT)	1.63
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
FLOW (CFS)
15
10
5
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

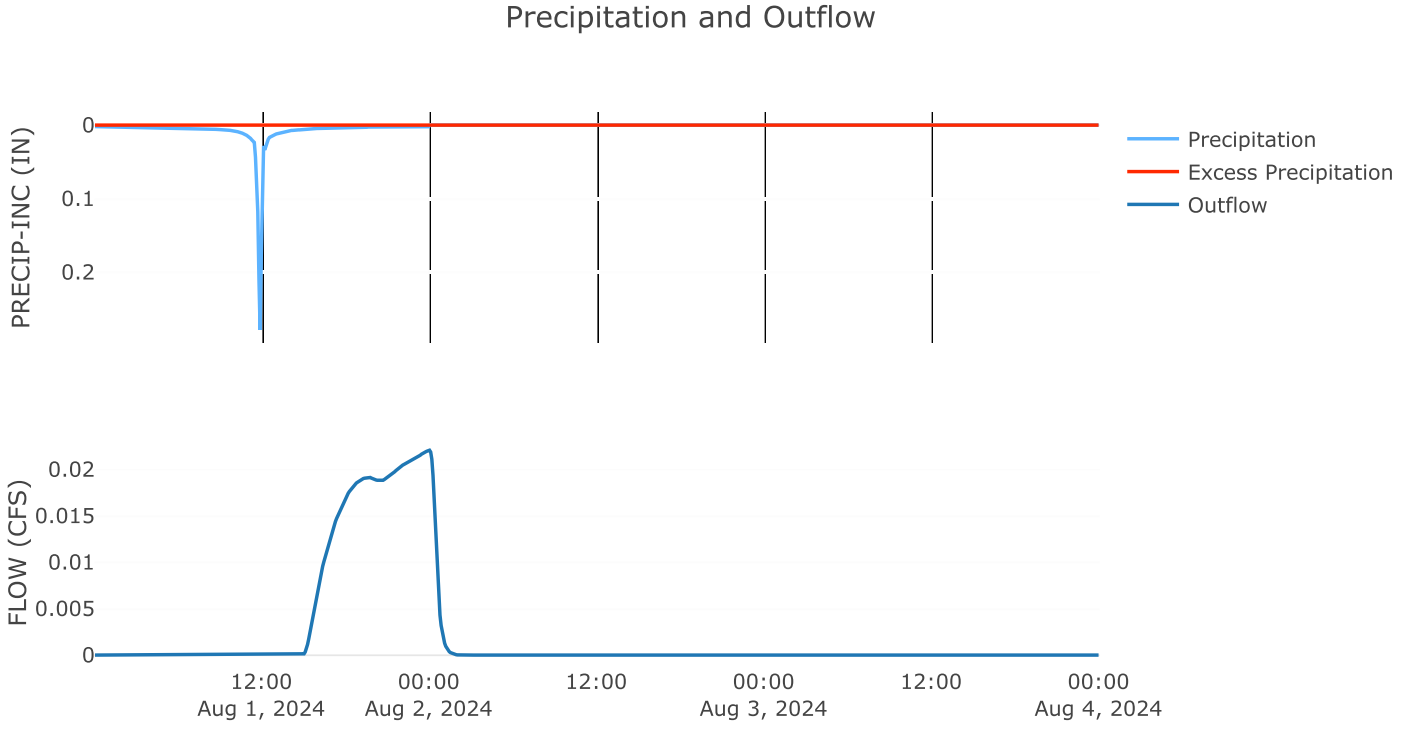
Subbasin: EX ON-4

Area (MI2) : 0.02

Loss Rate: Scs	
Percent Impervious Area	0
Curve Number	49.6
Initial Abstraction	2.03

Transform: Scs	
Lag	24.7
Unitgraph Type	Standard

Results: EX ON-4	
Peak Discharge (CFS)	0.02
Time of Peak Discharge	01Aug2024, 24:00
Volume (IN)	0.01
Precipitation Volume (AC - FT)	2.43
Loss Volume (AC - FT)	2.42
Excess Volume (AC - FT)	0.01
Direct Runoff Volume (AC - FT)	0.01
Baseflow Volume (AC - FT)	0


Precipitation and Outflow
PRECIP-INC (IN)
0
0.1
0.2
FLOW (CFS)
0.02
0.015
0.01
0.005
0
12:00
Aug 1, 2024
00:00
Aug 2, 2024
12:00
00:00
Aug 3, 2024
12:00
00:00
Aug 4, 2024
Precipitation
Excess Precipitation
Outflow

APPENDIX F:
Acoustic Assessment

DRAFT

To: San Bernardino Environmental Health Services
From: Tetra Tech
Subject: Freepoint Yermo Project – Acoustical Project Information
Date: October 31, 2024

Freepoint Eco-Systems Yermo Supply LLC ("Freepoint") is proposing the Plastics Sorting and Processing Facility ("the Project") located in the unincorporated town of Yermo, San Bernardino County, California. Freepoint is proposing the Project to recover plastics for recycling.

San Bernardino County requires information pertaining to the acoustical footprint of the Project to determine whether or not an acoustical analysis will be required. This information is presented by the County in the form of a check off list format as a series of questions. This memo describes each question and provides the required information.

Project Description

1. *Describe the project with emphasis on all aspects of the project that may generate noise. Include potential noise sources, times of day noises may occur, duration, if noises are restricted to indoor or outdoor areas and if there are plans to change the size or intensity of operations.*

The facility will consist of a large warehouse (estimated to be about 424,000 square feet), which will contain a receiving area for inbound material, sorting and processing equipment, and storage areas for outbound material awaiting pickup. Noise-producing equipment would operate during the facility operation hours Monday through Friday in two 10-hour shifts: Shift 1 would be from 5:00 am to 3:00 pm and Shift 2 would be from 3:00 PM to 1:00 am. On Saturdays the facility would operate 1 shift from 8:00 am to 6:00 pm and on Sundays there would be no work. Facility operation would include the following onsite noise sources:

- Indoors:
  - Sort Line (i.e. conveyors, opticals, ellipticals, eddy current, magnet)
  - Bale Breaker & Shredders (i.e. Primary Size Reduction)
  - Densifier (i.e. baler, pellet mill, agglomerator, cuber)
  - Float-Sink System/Water Based Density Separator
  - Elutriation Column – air based density separator
  - Dust Control System
  - Front End Loader
  - Forklifts
  - Skid Steer
  - Caterpillar Wheel Material Handler
- Outdoors:
  - Outdoor Conveyor
  - Trash Compactors
  - Air Compressors
  - Generator – office and computer backup (if/when needed).
  - Rooftop-mounted building ventilation fans

- Baghouse-Dust Control
- Truck Bay Traffic

The Project would initially utilize trucks to transport inbound and outbound material until rail service is brought online for the majority of the outbound material. There would still be offsite truck traffic associated with the Project, but substantially less. Corresponding to this shift, there would be additional rail noise associated with the Project.

Before being able to utilize the rail spur, there would be approximately 154 truck trips per day, including incoming and outgoing trips. After rail access is completed, the number of truck trips per day would reduce to approximately 70.

Adjacent Property Information

2. *Zoning and current land uses of the properties to the north, south, east and west.*

West of the Project is the Barstow Marine Corps Logistics Base. The property includes half of Dusty Trail, an existing dirt road within a right-of-way easement. The other half of Dusty Trail is owned by the Marine base. To the south is a Union Pacific railroad switching yard. North of the Project is vacant land. Residential structures are located approximately 1,000 feet north of the project along Yermo Road. The adjacent property to the east is predominantly vacant. The southeast corner of the Project extends east to the centerline of Jellico Street, an existing paved road within a county right-of-way easement, and includes the southern half of Marine Road, an existing dirt road within a county right-of-way easement. An area map and zoning map is provided in Figures 1 and 2 below.

3. *Distances to the adjacent property lines from the adjacent or onsite noise source.*

This distance from the onsite noise sources to the adjacent property lines are bulleted below and are provided in Figure 3.

- North: 750 ft
- South: 475 ft from primary noise sources and 30 ft from the rail spur.
- East: 450 ft
- West: 275 ft

Noise Footprint

4. *Is the noise a fixed source (business, machinery, etc.) or a mobile source (roadway, rail line, etc.)?*

The primary noise sources are fixed, but there will be mobile sources in the form of trucks traveling to and from the facility. Once systems are in place to utilize the rail spur, the rail noise would be a mobile source. However, the existing adjacent Union Pacific rail yard is currently a mobile source of noise in the immediate vicinity.

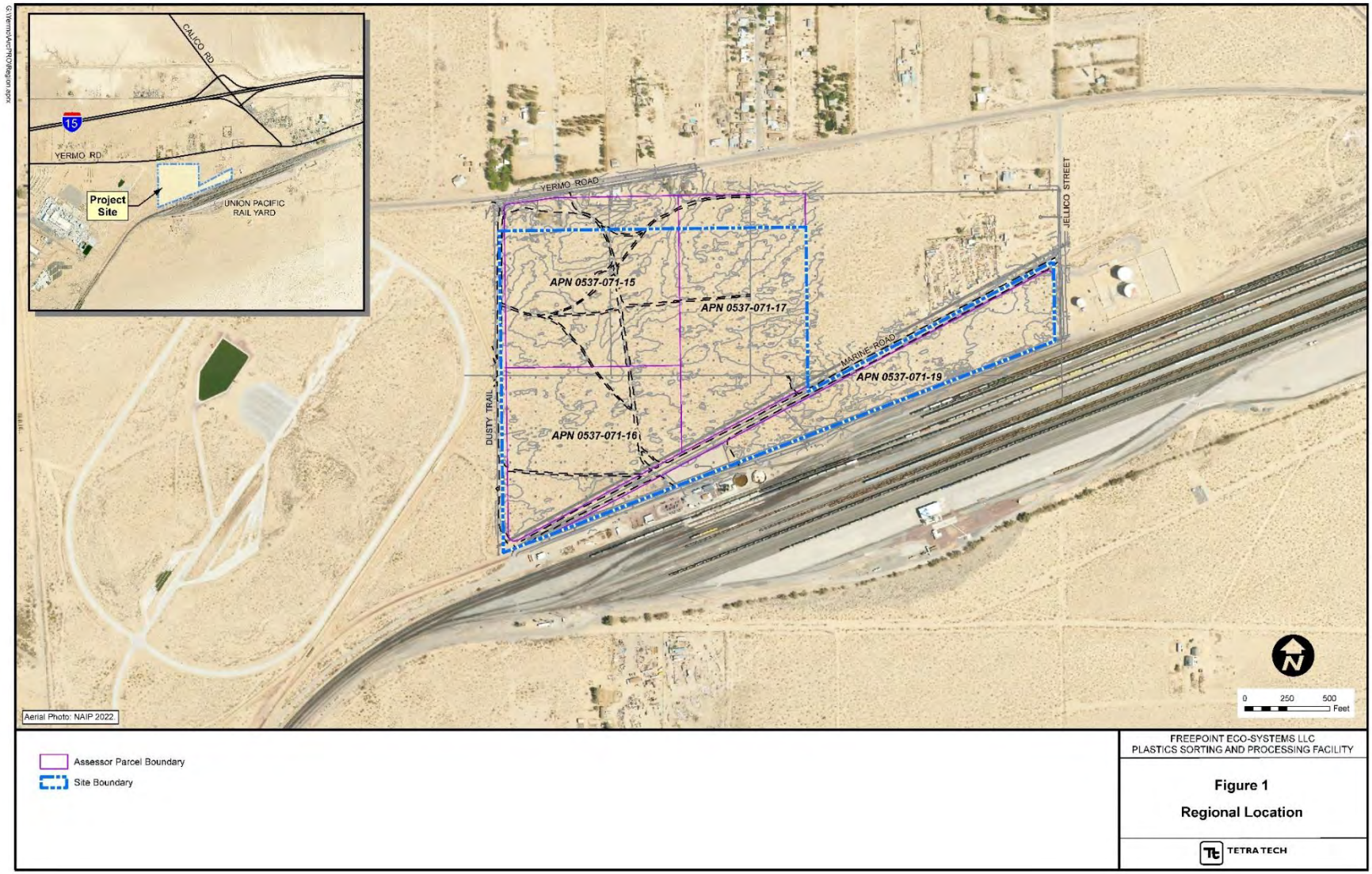
Existing Attenuation

5. *Are there any structures or other obstacles that may aid in reducing the noise exposure?*

The main building would obstruct southern properties from the primary outdoor noise sources. However, the main building would not obstruct the noise from the rail operations to the southern properties, but the adjacent Union Pacific rail yard is already a source of noise. The building could obstruct the noise from the rail operations to the northern properties. There are no other significant obstacles that would naturally reduce noise exposure, but all processing would take place indoors.

Project Area

1. *Provide an area map (copy of Thomas Guide page or other map noting the location of the facility).*



2. *Provide a facility map (hand drawn is adequate) noting the information in questions 2, 3, 4, and 5.*



Figure 2: Zoning Map

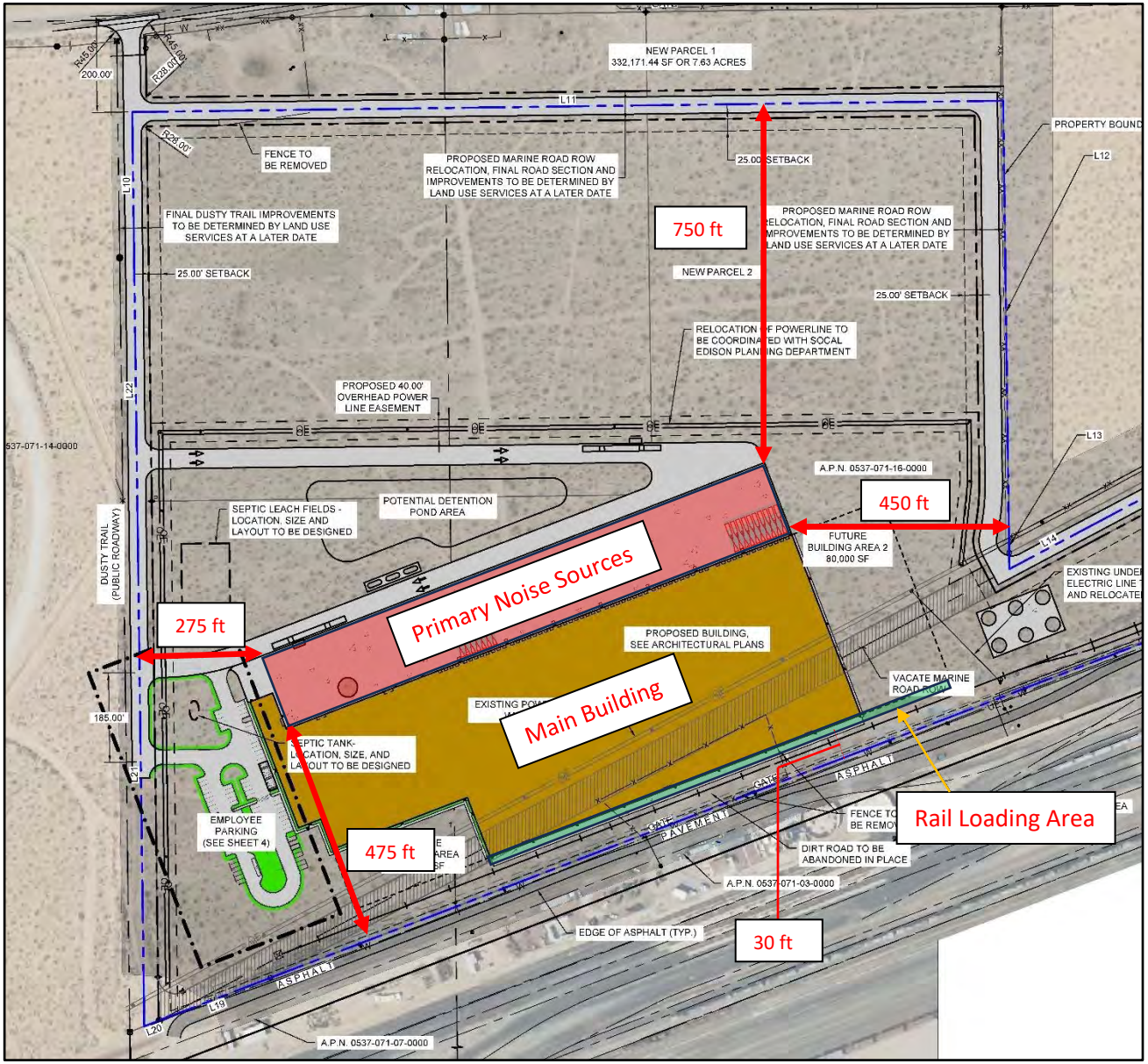


Figure 3: Site Layout

APPENDIX G:
Project Trip Generation Report

DRAFT

Hernandez, Kroone & Associates
Engineers & Land Surveyors

March 21, 2025

Freepoint Eco-Systems Yermo Supply, LLC
3050 Post Oak Boulevard
Houston, TX 77056

Plastic Sorting and Processing
Yermo, CA
Project Trip Generation Letter
24-1010

RE: Plastics Sorting and Processing Facility Project
37265 Yermo Road
Project Trip Generation

Hernandez, Kroone & Associates (HKA) would like to thank Tetra Tech, Inc. (Client) and Freepoint Eco-Systems (Developer) for the opportunity to submit a Project Trip Generation for the Plastics Sorting and Processing Facility Project proposed at 37265 Yermo Road, Yermo, California (Project).

The location of the subject project is in the northeast quadrant of the intersection of Dusty Trail and Marine Road. Developments in this location are permitted by the County of San Bernardino (County). The County's traffic guidelines are included in "*Transportation Impact Studies Guidelines,"* County of San Bernardino, July 9, 2019 (Guidelines).

According to these guidelines, the requirement to prepare a traffic impact study should be based upon, but not limited to, one or more of the following criteria:

- If a project generates 100 or more trips without consideration of pass-by trips during any peak hour. [1]
- If a project is located within 300 feet of
  - The intersection of two streets designated as Collector or higher in the County's General Plan or the Department's Master Plan or
  - An impacted intersection as determined by the Traffic Division.
- If this project creates safety or operational concerns.
- The project has the potential to generate VMT[2] that could result in a transportation impact as noted in the significance criteria presented later in this memorandum.

[1] Guidelines defines peak hours as occurring during 7:00 – 9:00 am (AM Peak Period) and 4:00 – 6:00 pm (PM Peak Period), non-holiday weekdays.
[2] VMT is the acronym for Vehicle Miles Traveled. VMT analysis may be required for compliance with California Senate Bill 743. This methodology was developed as a means to identify projects and mitigate projects in an effort to meet California's emission goals.

- If a project generates less than 100 trips without consideration of pass-by trips during any peak hour, a study may be required if there are special concerns.

The project is not near an intersection of collector streets. No other concerns of safety, operation or VMT generation have been noted as of this date. This letter will develop a project trip generation to compare to the 100 or more trips criteria.

The property and much of the surrounding area is vacant land. A plastics sorting and processing facility is being proposed. The size of the facility is sufficient to process up to 855 U.S. short tons ("tons") of post-industrial and post-consumer waste.

The information about the Project has been provided by Freepoint Eco-Systems based on their experience on other sites. Changes to the Project in terms of size and operation may impact the project trip generation developed here. However, HKA and the Client have both tried to estimate the maximum trips anticipated for the operation of the site. No construction trips were included in this analysis as the construction period is temporary.

Project Description

A large building will be built, consisting of:

- A receiving area for inbound material
- Sorting and processing equipment
- Storage areas for outbound material awaiting pickup
- Offices, break room, locker room, restrooms, and support spaces

All materials will be stored in this building.

Post-industrial waste from manufacturers and post-consumer material (Raw Material) from material recovery facilities will be trucked to the Project site. The recyclable plastic in this material will be sorted, baled, and sent to a pyrolysis facility in Eloy, Arizona. This material will be delivered by rail, but the plastic bales may be trucked while the rail is being constructed.

Other recyclables diverted from the waste stream, such as old corrugated containers (OCC), ferrous, and non-ferrous metals, would be sorted, baled, and then collected by traditional mechanical third party recycling companies. Any residual, unusable material would be trucked off-site for disposal at an area landfill.

Currently the site is envisioned to operate 24 hours per day, Sunday through Saturday. Deliveries of Raw Material to be sorted will be accepted from 8:00 am to 6:00 pm, Monday – Saturday. It is anticipated that up to 61 trucks (an average of 14 tons each) for a typical scenario, or 86 trucks (an average of 10 tons each) for a worst case scenario will be delivering materials for sorting. The Project will have a designed processing capacity of 855 tons per day.

Residual material destined for the landfill will be trucked from the site between 8:00 am to 6:00 pm, Monday – Saturday. It is anticipated that up to 31 trucks will move baled plastics to Eloy for additional processing and up to 31 trucks will be moving the remaining materials to other recyclers or to a landfill.

Employees will be on site:

- Sunday – Saturday 1st Shift 6:00 a.m. – 6:00 p.m., 22 – 27 employees.
- Sunday – Saturday 2nd Shift 6:00 p.m. – 6:00 a.m., 22 – 27 employees.

The employee parking lot will have 14 carpool parking spaces, but the analysis was completed as if all employees will drive individually to and from the Project site.

Other people that might occasionally travel to or from the Project site include:

- Schoolchildren and their chaperons, by bus or van.
- Other occasional visitors.
- Outside maintenance vendors.

They are expected to visit seldomly, and their visits would be outside of the peak periods. Their trips are not included in the calculation of project trips

Project Trips

Typically, the project trips generated by a new project are forecast from the *"Trip Generation Manual," Volumes 1-5, 11th Edition,* Institute of Transportation Engineers, United States of America, September 2021 (ITE). This type of project is not included in the ITE, nor is it included in the "*Truck Trip Generation Study,"* City of Fontana, August 2003. HKA will be estimating the trips for the Project based on information provided in the project description.

Trucks – *(See Table 1)* Each inbound vehicle loaded with Raw Material or outbound vehicle loaded with non-plastic materials is anticipated to enter and leave the site daily, between 8:00 am – 6:00 pm except Sundays. It was assumed that delivery trucks would leave empty and that trucks removing sorted materials would arrive empty. The worst case daily truck Project Trips would be 296 (86 Raw Material Trucks entering and leaving, and 62 sorted material trucks comprised of 31 trucks for residual material and 31 trucks for baled plastic for Eloy entering and leaving).

The Raw Material trucks were assumed to start arriving at 8:00 am with a peak arrival at midday as the operations ramp up for the day. Table 1 shows all the Raw Material trucks entering and leaving between 8:00 am – 6:00 pm. The outbound trucks of sorted materials are expected to start at 9:00 am and continue to 6:00 pm, which is conservative as the trucks could arrive or leave outside of these hours. Table 1 shows a conservative distribution of trucks across the day. This distribution shows the peak hours to have a volume of:

- Peak during AM Peak Period – 10 Trucks Arriving, 0 Trucks Exiting – 10 Project Trips
- Peak during PM Peak Period – 11 Trucks Arriving, 25 Trucks Exiting – 36 Project Trips

The trucks used are tractor-trailer trucks (semis). Since they are larger and take more time to maneuver, a Passenger Car Equivalent (PCE) of 3 is assigned to them. This is done to represent the impact of the Project Trips more clearly on the operation of the roads and intersections. Table 1 shows the Project's trips in PCEs to be:

- Daily – 888 Project Trips
- Peak during AM Peak Period – 30 Project Trips
- Peak during PM Peak Period – 108 Project Trips

Employees - (See Table 2) Assuming all employees individually drive to the site and do not use bicycles, ride share or public transit, and using the maximum number of employees per shift, the daily employee trips are anticipated to be 108.

Table 2 shows the employee trips distributed across the day by their shifts. It is assumed that 10% of the employees will arrive late at the beginning of their shifts and 10% will leave early at the end of their shift. With that assumption, Table 2 shows the Project Trips due to employees' trips to be outside of the AM Peak Period, and half outside of the PM Peak Period. As employees are assumed to use motorcycles, cars, pickups or similar smaller vehicles, conversion to PCEs is not required.

Total Project Trips - Table 3 below shows the combined Project Trips for trucks and employees, by vehicles and PCEs, daily and during the peak periods.

TABLE 3 – TOTAL PROJECT TRIPS, VEHICLES AND PCES

		AM Peak Hour (8:00 AM – 9:00 AM)			PM Peak Hour (4:00 PM – 5:00 PM)		
TYPE	**DAILY**	**IN**	**OUT**	**TOTAL**	**IN**	**OUT**	**TOTAL**
VEHICLES	404	10	0	10	8	17	25
PCEs	996	30	0	30	24	51	75

The highest volume of Project Trips, in PCEs, is 75 during a peak hour. This volume is less than the 100 project trips in a peak hour listed in the Guidelines as the criteria for needing additional analysis.

Conclusion

A conservative number of trucks has been projected for the trucks bringing Raw Material to the site and for the trucks leaving the site with sorted materials. HKA used the maximum number of employees when estimating the Project Trips generated by the employees. The distribution throughout the day of the trucks limited the hours the trucks arrived and left the site to less than what may be used in practice. HKA has prepared and presented a conservative estimate of the Project Trips generated and distributed those trips in a conservative manner.

Since the Project Trips are anticipated to be less than 100 during the peak hour, no significant traffic impacts are expected, and additional analysis is not warranted.

Please call if you have any questions or concerns.

Sincerely,



Anne M. Hernandez, PE
Hernandez, Kroone & Associates, Inc.
anneh@hkagroup.com

Attachments: Table 1 - Truck Trips Distributed by Hour, in Trucks and PCEs
Table 2 – Weekday Employee Trips Distributed by Hour

Table 1 - Truck Trips Distributed by Hours, in Trucks and PCEs

		Trucks					PCEs				
		Inbound Loads 86		Outbound Loads 62		Total	Inbound Loads 258		Outbound Loads 186		Total
Time Period		In	Out	In	Out		In	Out	In	Out	
0:00	1:00	0	0	0	0	0	0	0	0	0	0
1:00	2:00	0	0	0	0	0	0	0	0	0	0
2:00	3:00	0	0	0	0	0	0	0	0	0	0
3:00	4:00	0	0	0	0	0	0	0	0	0	0
4:00	5:00	0	0	0	0	0	0	0	0	0	0
5:00	6:00	0	0	0	0	0	0	0	0	0	0
6:00	7:00	0	0	0	0	0	0	0	0	0	0
7:00	8:00	0	0	0	0	0	0	0	0	0	0
8:00	9:00	10	0	0	0	10	30	0	0	0	30
9:00	10:00	10	10	6	6	32	30	30	18	18	96
10:00	11:00	11	10	9	6	36	33	30	27	18	108
11:00	12:00	12	10	9	7	38	36	30	27	21	114
12:00	13:00	12	10	8	7	37	36	30	24	21	111
13:00	14:00	12	12	7	7	38	36	36	21	21	114
14:00	15:00	12	12	7	7	38	36	36	21	21	114
15:00	16:00	5	12	7	7	31	15	36	21	21	93
16:00	17:00	2	10	6	7	25	6	30	18	21	75
17:00	18:00	0	0	3	8	11	0	0	9	24	33
18:00	19:00	0	0	0	0	0	0	0	0	0	0
19:00	20:00	0	0	0	0	0	0	0	0	0	0
20:00	21:00	0	0	0	0	0	0	0	0	0	0
21:00	22:00	0	0	0	0	0	0	0	0	0	0
22:00	23:00	0	0	0	0	0	0	0	0	0	0
23:00	0:00	0	0	0	0	0	0	0	0	0	0
		86	86	62	62	296	258	258	186	186	888

Table 2 - Weekday Employee Trips Distributed by Hour

Time Period		1st Shift - 27		2nd Shift - 27		Total
		6:00 AM - 6:00 PM		6:00 PM - 6:00 AM		
		In	Out	In	Out	
0:00	1:00					0
1:00	2:00					0
2:00	3:00					0
3:00	4:00					0
4:00	5:00					0
5:00	6:00	24			3	27
6:00	7:00	3			24	27
7:00	8:00					0
8:00	9:00					0
9:00	10:00					0
10:00	11:00					0
11:00	12:00					0
12:00	13:00					0
13:00	14:00					0
14:00	15:00					0
15:00	16:00					0
16:00	17:00					0
17:00	18:00		3	24		27
18:00	19:00		24	3		27
19:00	20:00					0
20:00	21:00					0
21:00	22:00					0
22:00	23:00					0
23:00	0:00					0
	Total	**27**	**27**	**27**	**27**	**108**

APPENDIX H:
Vehicle Miles Traveled Technical Memorandum

DRAFT

TECHNICAL MEMORANDUM

DATE: March 20, 2025
TO: Anne Hernandez, Hernandez, Kroone & Associates, Inc.
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 16456-01 VMT

SUBJECT: FREEPOINT ECO-SYSTEMS YERMO SUPPLY LLC PLASTICS SORTING AND PROCESSING FACILITY VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. has completed the following Vehicle Miles Traveled (VMT) Analysis for the Freepoint Eco-Systems Yermo Supply LLC Plastics Sorting and Processing Facility (Project), which is located at 37265 Yermo Road in the County of San Bernardino.

PROJECT OVERVIEW

A large building will be built, consisting of:

- A receiving area for inbound material
- Sorting and processing equipment
- Storage areas for outbound material awaiting pickup
- Offices, break room, locker room, restrooms, and support spaces

All materials will be stored in this building. The Project land use plan is found in Attachment 1.

Post-industrial waste from manufacturers and post-consumer material (Raw Material) from material recovery facilities will be trucked to the Project site. The recyclable plastic in this material will be sorted, baled, and sent to a pyrolysis facility in Eloy, Arizona. This material will be delivered by rail, but the plastic bales may be trucked while the rail is being constructed.

Other recyclables diverted from the waste stream, such as old corrugated containers (OCC), ferrous, and non-ferrous metals, would be sorted, baled, and then collected by traditional mechanical third party recycling companies. Any residual, unusable material would be trucked off-site for disposal at an area landfill.

Currently the site is envisioned to operate 24 hours per day, Sunday through Saturday. Deliveries of Raw Material to be sorted will be accepted from 8:00 am to 6:00 pm, Monday – Saturday. It is anticipated that up to 61 trucks (an average of 14 tons each) for a typical scenario, or 86 trucks (an average of 10 tons each) for a worst case scenario will be delivering materials for sorting. The Project will have a designed processing capacity of 855 tons (U.S. short tons) per day.

Residual material destined for the landfill will be trucked from the site between 8:00 am to 6:00 pm, Monday – Saturday. It is anticipated that up to 31 trucks will move baled plastics to Eloy for additional processing and up to 31 trucks will be moving the remaining materials to other recyclers or to a landfill.

Employees will be on site:

- Sunday – Saturday 1st Shift 6:00 a.m. – 6:00 p.m., 22 – 27 employees.
- Sunday – Saturday 2nd Shift 6:00 p.m. – 6:00 a.m., 22 – 27 employees

The employee parking lot will have 14 carpool parking spaces, but the analysis was completed as if all employees will drive individually to and from the Project site.

Other people that might occasionally travel to or from the Project site include:

- Schoolchildren and their chaperons, by bus or van.
- Other occasional visitors.
- Outside maintenance vendors.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the County of San Bernardino adopted Transportation Impact Study Guidelines (July 2019) (**County Guidelines**) (1). This VMT Analysis has been prepared based on the adopted County Guidelines.

VMT SCREENING

County Guidelines state that a project may be determined to have a non-significant transportation impact if it meets one or more VMT screening criteria. Each of the screening criteria listed in the County Guidelines are described in Table 1 along with a determination of the Project's eligibility to meet each criterion.

TABLE 1: SCREENING FOR LAND USE PROJECTS EXEMPT FROM VMT CALCULATIONS

Screening Criteria	Description	Result
Local Serving Land Use	Local-Serving Retail under 50,000 square feet or Local Essential Services such as K-12 schools, day care centers, and community institutions.	Does not meet.
Projects Generating Less Than 110 Daily Trips	Projects generating fewer than 110 daily trips are presumed to have a less than significant impact on VMT.	Does not meet.
Transit Priority Area (TPA)	Projects located within a TPA (i.e., within a half mile of an existing major transit stop or an existing stop along a high-quality transit corridor) are presumed to have less than significant impact on VMT.	Does not meet.
Low VMT Area	Projects located in a low VMT-generating area of the County are beneficial to the region as they can reduce VMT per person/employee.	Does not meet.

Consistent with the County Guidelines, as the Project was not found to meet any of the applicable screening criteria, a Project-level VMT analysis has been prepared.

TRAFFIC MODELING METHODOLOGY

County Guidelines state that San Bernardino County Transportation Analysis Model (SBTAM) is the preferred tool for conducting VMT analysis for land use projects in the County of San Bernardino.

San Bernardino County Transportation Authority's (SBCTA) most recent release of SBTAM is version 3.2, released in June 2024. SBTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle type.

VMT ANALYSIS METHODOLOGY

For purposes of this assessment, VMT was estimated using the Production/Attraction method and Boundary method. For the Production/Attraction method, VMT is presented as Home-Based-Work (HBW) attraction VMT per employee, while the Boundary method presents VMT as total VMT and total VMT per service population.

PRODUCTION/ATTRACTION METHOD

The Production/Attraction (PA) method for calculating VMT sums all weekday VMT generated by HBW trips with at least one trip-end in the study area (i.e., Project Traffic Analysis Zone or TAZ) by trip purpose to/from their ultimate destination unless that destination is outside of the model boundary area. Productions are land use types that generate trips (residences), and attractions are land use types that attract trips (employment). The PA method allows Project VMT to be evaluated based on trip purpose, which is consistent with both the Office of Planning and Research (OPR) Technical Advisory and County Guidelines.

BOUNDARY VMT METHOD

The boundary method is the sum of all weekday VMT on the roadway network within a designated boundary (i.e., County boundary or other designated geographic area). The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This is the only VMT method that captures the effect of cut-through and/or displaced traffic. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. In addition, a 10-mile radius boundary surrounding the Project has also been utilized to provide a more accurate and complete accounting of trips coming to and from the Project.

VMT METRIC AND SIGNIFICANCE THRESHOLD

As stated in the County Guidelines, the appropriate VMT metric for employment projects is VMT per employee.[1] An employment project would result in a significant project-generated VMT impact if the following condition is met:

- Project-generated VMT per employee is greater than 4% below the existing VMT per employee for the unincorporated County.

Additionally, if the Project is inconsistent with the regional transportation plan or sustainable community strategies (RTP/SCS), the Project's cumulative effect on VMT would be considered significant if it results in the following condition:

[1] County Guidelines; Page 20

- Cumulative year VMT per service population (population + employment) increases in the with-project condition as compared to the no-project condition.

COUNTY OF SAN BERNARDINO VMT PER EMPLOYEE

The County of San Bernardino's existing VMT per employee has been calculated using SBTAM. Table 2 presents the resulting County of San Bernardino's existing VMT per employee of 22.3, with a threshold of 4% below existing VMT per employee of 21.4.

TABLE 2: UNINCORPORATED COUNTY OF SAN BERNARDINO BASELINE VMT PER EMPLOYEE

	Unincorporated County of San Bernardino
Employee	296,716
VMT	6,630,823
VMT per Employee	22.3
4% Below Existing	21.4

PROJECT VMT ESTIMATES

To estimate project-generated VMT, the SBTAM model utilizes socio-economic data (SED) (e.g., employment) for the purposes of vehicle trip estimation. As provided by the Project Applicant, 54 employees are expected over a daily weekday period.

Project-generated VMT and a comparison to the County's impact threshold is presented in Table 3. The Project is estimated to generate VMT per employee below the County's adopted impact threshold. SBTAM output information can be found in Attachment 2.

TABLE 3: PROJECT VMT PER EMPLOYEE

	Baseline
Employment	54
VMT	740
VMT/Employee	13.7
County Threshold	21.4
Exceeds Threshold?	No

Table 4 presents boundary VMT and boundary VMT per service population estimates for cumulative conditions. The boundary VMT per service population in the with-project scenario is found to remain unchanged for the Countywide boundary evaluation and decrease slightly for the 10-mile boundary evaluation. The with-project condition does not exceed the County's adopted threshold of a net increase above the no-project condition.

TABLE 4: CUMULATIVE BOUNDARY VMT

	Service Population	Boundary VMT	VMT per Service Population	Exceeds Threshold?
Countywide Cumulative No-Project	3,761,191	94,743,867	25.2	-
Countywide Cumulative With-Project	3,761,251	94,723,749	25.2	No
10-mile Cumulative No-Project	32,740	1,584,186	48.4	-
10-mile Cumulative With-Project	32,800	1,584,152	48.3	No

[1] Service population refers to population and employment

CONCLUSION

Based on the results of this analysis, the following findings are made:

- The Project was evaluated against screening criteria as outlined in the County Guidelines. The Project was not found to meet any of the screening criteria and a VMT analysis was performed.
- Project-generated VMT estimates were calculated from SBTAM and compared to the County's adopted impact threshold of 4% below existing Countywide VMT per employee. Project-generated VMT per employee was found to be below the County's impact threshold.
- The Project's cumulative effect on VMT was found to be unchanged or below the County's adopted impact threshold of no net increase in VMT per service population for with project conditions.

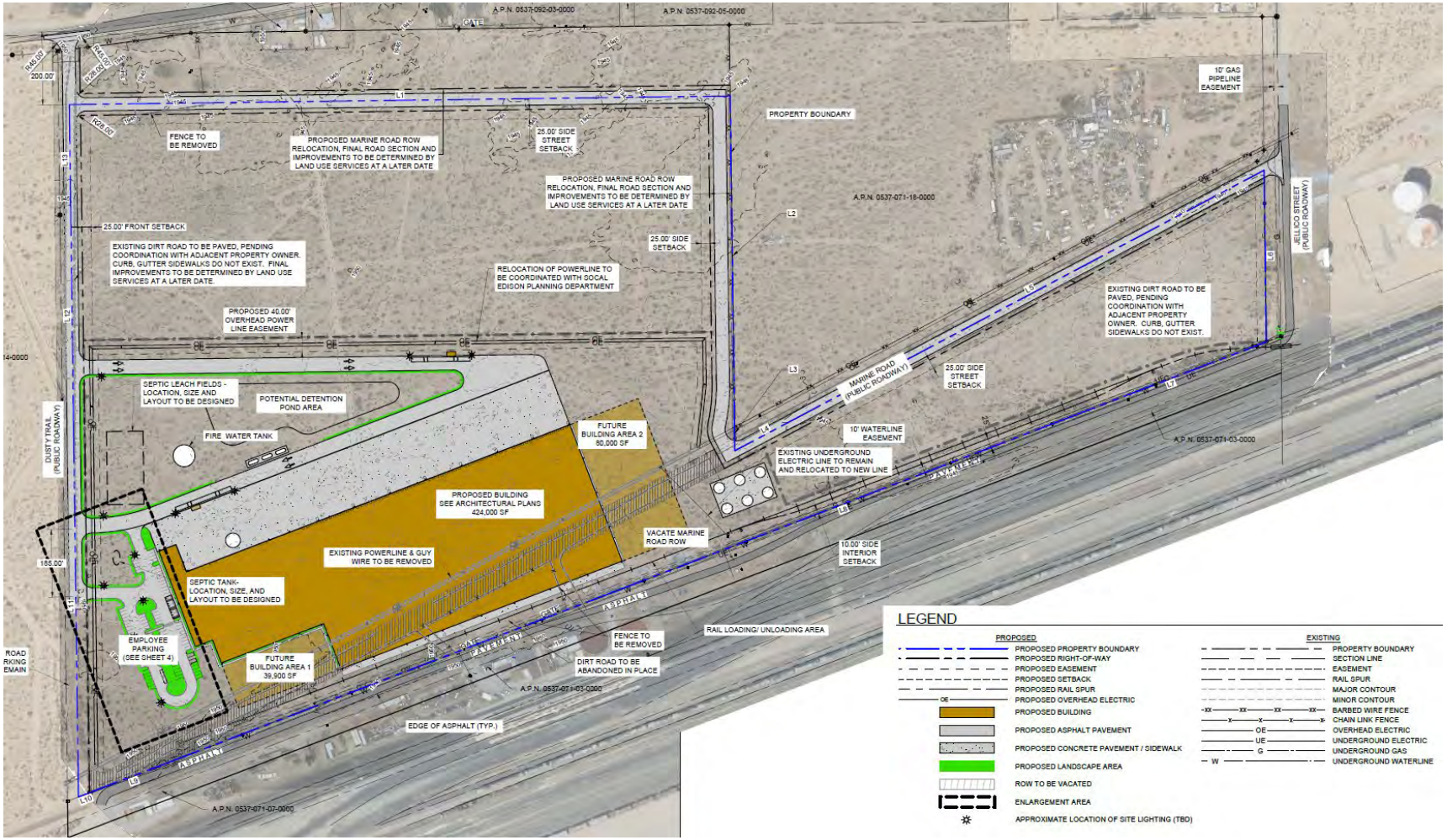
If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. **San Bernardino County.** *Transportation Impact Study Guidelines.* July 2019.

ATTACHMENT 1:

PROJECT LAND USE PLAN



ATTACHMENT 2:

SBTAM OUTPUT DATA

	2019	2050
TAZ	53956401	53956401
HBW VMT From	0	0
HBW VMT To	718.932042	829.197882
HBW VMT Intra	0	0
HBW VT From	0	0
HBW VT To	42.246276	45.793374
HBW VT Intra	0	0
HBW TripLen From	0	0
HBW TripLen To	17.017643	18.107377
HBW TripLen Intra	0	0
HBW TripLen All	17.017643	18.107377
HB VMT From	0	0
HB VMT To	776.518857	882.411452
HB VMT Intra	0	0
HB VT From	0	0
HB VT To	50.930215	53.792974
HB VT Intra	0	0
HB TripLen From	0	0
HB TripLen To	15.246722	16.403842
HB TripLen Intra	0	0
HB TripLen All	15.246722	16.403842
NHB VMT From	160.802832	182.415328
NHB VMT To	59.80254	82.133547
NHB VMT Intra	2.690646	2.567345
NHB VT From	15.74543	16.832343
NHB VT To	5.125522	6.199812
NHB VT Intra	0.894503	0.853512
NHB TripLen From	10.212667	10.837192
NHB TripLen To	11.667599	13.247747
NHB TripLen Intra	3.007979	3.007979
NHB TripLen All	10.908581	11.812333
Total PA VMT From	160.802832	182.415328
Total PA VMT To	836.321397	964.544999
Total PA VMT Intra	2.690646	2.567345
Total PA VT From	15.74543	16.832343
Total PA VT To	56.055738	59.992786
Total PA VT Intra	0.894503	0.853512
Total PA TripLen From	10.212667	10.837192
Total PA TripLen To	14.919461	16.077683
Total PA TripLen Intra	3.007979	3.007979
Total PA TripLen All	14.024543	15.063428