

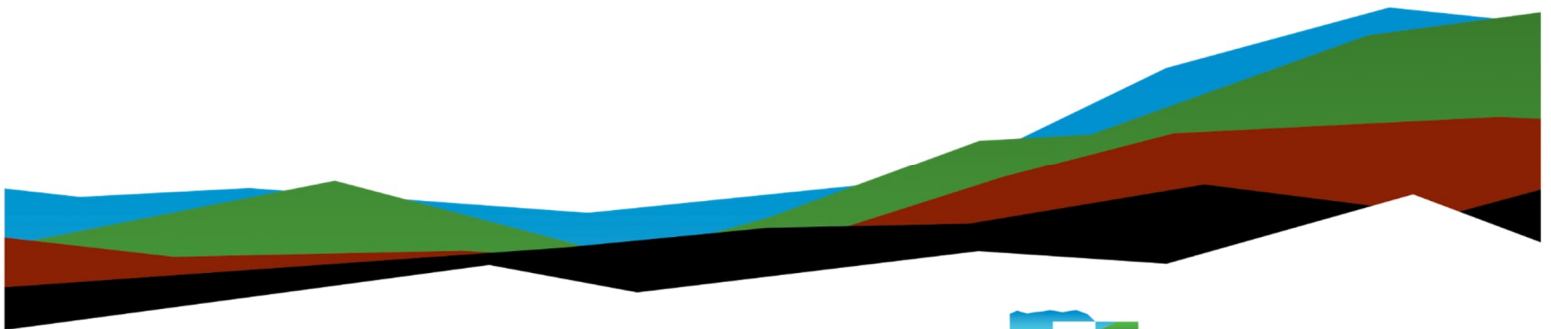
Proposed Alder Taylor Retail Project

Onsite Wastewater Treatment System (OWTS) Testing Report

June 24, 2025 | Terracon Project No. CB255026

Prepared for:

ATHSP, LLP
PO Box 780
Bloomington, CA 92316



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June 24, 2025

ATHSP, LLP
PO Box 780
Bloomington, CA 92316

Attn: Mr. Hae Park
P: (909) 721-7303
E: info@belairswapmeet.org

Re: Onsite Wastewater Treatment System (OWTS) Report
Proposed Alder Taylor Retail Project
17805 and 17783 Taylor Avenue
Bloomington, California
Terracon Project No. CB255026

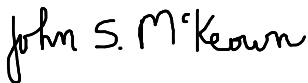
Dear Mr. Park:

We have completed the scope of Onsite Wastewater Treatment System (OWTS) testing services for the above referenced project in general accordance with Proposal No. PCB255026 dated March 4, 2025. This report presents the findings of the subsurface exploration and percolation testing and provides design recommendations for the proposed disposal system for the proposed commercial development. Note that our proposal did not include preparation of design civil drawings for the proposed OWTS and these will be provided by others.

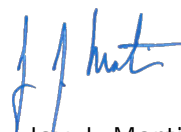
We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon



John S. McKeown, EG 2396
Senior Geologist



Jay J. Martin, EG 1529
Principal



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Unified Soil Classification System

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  Terracon logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Description of Site and Proposal

Date EHS Notified: April 2, 2025 notified via email (EHS.CustomerService@dph.sbcounty.gov) by Mr. John McKeown (John.McKeown@terracon.com), Terracon Consultants, Inc. See attached Notice of Intent to Perform Percolation Testing Form.

Prepared for:

ATHSP, LLP

PO Box 780

Bloomington, California 923161

Phone No. (909) 721-7303

Registered Professional of Record: John S. McKeown, Terracon Consultants, 1355 East Cooley Drive, Colton, CA 92324, (909) 503-5083, current as June 16, 2025.

Location of Land: See Index Map and Geotechnical Index Map attached. The site is located at 17805 and 17783 Taylor Avenue in Bloomington, California. The site includes Parcel Nos. 0252-142-05-0000 and 0252-142-06-0000. The parcels are accessed via Taylor Avenue that extends along the northern site boundary. The approximate coordinates of the center of the tested area are 34.0688°N, 117.4163°W.

Terracon conducted a seepage pit investigation for the proposed retail building project. The locations of seepage pit tests are shown on the attached Site Plan. The County of San Bernardino Percolation Test Standards and Guidelines and Land Use Services, Building and Safety Division – IB No. 0018 were referenced during this investigation and reporting.

Proposed Development/Project/Land Uses

Type of Project: The site will be redeveloped with a retail center on two parcels to be combined. The project includes a new single-story retail center building with a total footprint of approximately 54,406 SF and associated surface parking areas. A trash enclosure of concrete block construction and steel perimeter fence is also planned. A series of seepage pits is anticipated to serve the development. A sanitary sewer connection is not available to the project parcels. The parcel is not known to be located within 200 feet of existing sewer service.

The subject of this report is an Onsite Wastewater Treatment System for the proposed project with 112 drainage fixture units (DFUs). It is planned to install a 3,800-gallon

septic tank and seepage pits for effluent treatment/disposal. It is assumed that the existing buildings (to be removed) are/were served by a septic tank(s) and disposal field elements. Any existing tank(s) or disposal field elements will be removed or abandoned in place, as required, as part of site development.

Acreage: The area of the parcels to be combined is 3.61 acres. Seepage pits are planned along the northern portions of parcels between Taylor Avenue and proposed surface parking areas (see Preliminary Grading Plan). Final seepage pit locations were not determined at the time of testing. The area available for the proposed system consists of at least 1 acre.

Number of Lots: 2 lots to be combined.

Type of Sewage Disposal: A septic tank and seepage pit(s) disposal system is proposed for the project.

Grading: Minor grading is proposed to prepare the area of the proposed system. The grading consists of a proposed fill that is a maximum of 1 foot in thickness above existing grade within the proposed area. The area of the proposed system is comprised of free-draining native alluvium to depths of at least 36 feet below ground surface. Similar soils are anticipated below the explored depth based on the alluvial geologic environment of the site.

California Plumbing Code Calculations:

Fixture counts were provided by the design civil engineer (Joseph E. Bonadiman & Associates, Inc.) as presented in the table below.

WASTE & WATER FIXTURE UNIT COUNT							
FIXTURE	QTY	WASTE		COLD WATER		HOT WATER	
		DFU	TOTAL DFU	WSFU	TOTAL WSFU	WSFU	TOTAL WSFU
WATER CLOSET	16	6	96	2.5	40	–	–
LAVATORY	16	1	16	1	16	0.75	12
HOSE BIBB	1	–	–	2.5	2.5	–	–
	15	–	–	1	15	–	–
TOTAL FU			112		73.5		12

Per Table H201.1(1) a septic tank of 3,800 gallons is required for 112 DFU per the 2022 California Plumbing Code (2022 CPC). Septic tank sizing for this analysis is based on DFUs.

The design civil engineer (Joseph E. Bonadiman & Associates, Inc.) provided OWTS design and code occupancy data to Terracon. Occupancy is based upon the number of parking stalls provided.

Occupancy Data per Table H 201.1 of California Plumbing Code:

Type of Occupancy	Total Parking Stalls	Gallons Per Day per Stall	Total Sewage Flow Per Day	Septic Tank Size Required ¹
Commercial Retail	119	20	2,380 ² gallons	2,910 gallons

1. Septic tank size = flow x 0.75 + 1125
2. Value assumed (not provided to Terracon)

Description of Site and Surroundings

Topography: See Preliminary Grading Plan attached for existing topography. The existing topography within the proposed disposal field area is at elevations of 1104 to 1106 feet and the area is relatively level with little gradient. Based on the USGS topographic map of the Fontana 7.5-minute quadrangle, the regional surface gradient is approximately 1% to the south-southeast.

Watercourses: Natural watercourses are not depicted on or within 1 mile of the site. The available topographic maps of the site reviewed (1901, 1938, 1955, 1975, 1985, 2015, 2021 at historicaerials.com) do not show any water courses. Drainage occurs by sheet flow. An east-west trending surface drainage channel is located along the southern project boundary.

Vegetation Type and Density: The site region includes single-family and commercial parcels. Individual parcels (commercial) include hardscape and paved parking. Residential lots include dirt surface or limited paving. The site is primarily dirt surface and includes mature trees along Taylor Avenue and within the residential parcel and scattered annual weeds and grasses over the remaining parcel areas. The annual growth is subject to periodic clearing. Removal of the trees is planned as part of site development.

Existing Structures: An existing (unoccupied) SFR building (approximately 1,900 SF) first appears on APN 0252-142-05 in historical aerial imagery dated 1938. An occupied SFR was present within the APN 0252-142-06 parcel. The existing structures are planned to be removed as part of proposed project construction. The type and capacity of any existing disposal system(s) associated with existing SFRs is not known. All elements of any existing system are planned to be removed as part of the proposed development.

Wells: Wells are not shown on USGS topographic maps or on maps included with USGS Water-Supply Paper 1419 (Dutcher and Garret, 1963) on or within ½ mile of the site.

Rock Outcrops: No surficial rock outcrops are present in the proposed disposal field area, nor was bedrock encountered in the test exploration or site borings. Native alluvial materials were observed to the maximum depths of on-site explorations. The closest outcrop area as indicated on geologic maps of the region is approximately 1.2 miles south of the site. California Division of Mines and Geology Special Report 113 (CDMG, 1976) indicates a thickness of alluvium of approximately 900 feet in the site area.

Groundwater: The site is located in Section 21 of Township 1 South, Range 5 West in the Chino Sub-basin of the Upper Santa Ana Valley Groundwater Basin. Groundwater data were reviewed in order to estimate the historic groundwater conditions for the site. Depth-to-groundwater data from the California Department of Water Resources (2024) and historic water elevation contour maps are summarized in the following table.

Data ID	Surface Elevation (feet)	Date	Depth to Water (feet)	Location
CHINO-1002109	1,102	10-1-1989	310	3/4 mile WSW
		10-1-1996	334	
		1-1-2001	362	
		10-1-2008	358	
		6-1-2016	369	
		9-1-2019	363	
		9-2-2024	371	
01S05W22M001S	1,090	2-29-1956	248	1.1 miles E
		1-4-1972	264	
		12-3-1984	250	
		4-14-2000	244	
Gosling (1967)	--	1964	300	contour
Carson & Matti (1985)	--	1973-1979	300	contour

Groundwater was not encountered within the current borings. The historic high groundwater level is estimated to be 244 feet bgs.

Previous Septic System and Leach Field: The design civil engineer contacted persons potentially knowledgeable about the existing system(s). The location(s) and details of such systems are not available at the time of this report. The California Plumbing Code requires that abandoned septic tanks be located, the top removed, any sewage removed, and backfilled. The nearest sewerage source is unknown; however, no manholes or other indications of sewer connections were observed on Taylor Avenue. The closest sewer facility is therefore expected to be at least several hundred feet from the site.

Other: Other features that may affect sewage disposal are not anticipated. The proposed system is anticipated to be entirely in native materials.

Equipment

Exploration: The soil conditions underlying the subject site were explored by means of one exploratory boring (B-8, profile boring) drilled to a maximum depth of 36½ feet below ground surface in the proposed disposal field area. This boring was drilled and logged prior to drilling four (4) percolation test borings (SP-1 through SP-4).

Seepage Pits: Percolation test borings were drilled and logged to the test depths of 25 feet bgs. The drill rig was equipped with an 8-inch hollow stem auger. Samples of material from each test boring were returned to our laboratory for gradation analysis.

For purposes of the percolation testing, the following were utilized: A 2½ inch water hose supplied from a hydrant and well 'sounder' with 1/10th inch divisions, and stopwatch/timer.

Locations of Borings

Locations of Explorations: See attached Site Plan for the locations of the test borings in relation to the proposed disposal area. Handheld GPS and the Grading Plan were utilized to locate test borings. Tests were performed at the anticipated maximum depth of the proposed seepage system.

Soil Characteristics to Determine Number of Borings: The testing was based on a 'favorable' soil classification determined by the sandy-gravelly soils exposed in the profile boring

Minimum Number of Explorations

Soil conditions were determined by extending one boring to a depth of 36½ feet and logging the soils. See attached Boring Log for B-8. The soils encountered in four (4) percolation test borings, extended to a test depth of 25 feet bgs, were also logged.

Minimum Number of Tests for Seepage Pits

Per the Percolation Testing and Reporting Standards for Onsite Wastewater Treatment Systems ("Perc Manual"), prepared by Environmental Health Services, San Bernardino County, California, revised September 2019, a minimum of two percolation tests are required for a 4,000-gallon septic tank for commercial applications under one ownership with 'favorable' soils. 'Moderate' soils require 2 tests per 3,000 gallon capacity plus 1 additional test per 2,000 gallon capacity or fractional part thereof. We performed four (4) percolations tests as requested by the project civil designer.

Percolation Test Procedures

Locations of Explorations and Test Holes: See attached Site Plan. Handheld GPS was utilized to locate test bores. Tests were performed at the anticipated maximum depth of the proposed seepage pit system.

Exploration Results: See attached Falling Head Percolation Test data sheets and Boring Logs SP-1 through SP-4 for a description of the soils in each test boring. The soil profile consists of thickly layered native silty sand (SM) and silty sand with gravel to 1" (SM). Layers of limited thickness, relative to the overall soils profile, with fines content higher than 50% as determined with a passing 200 sieve analysis, were encountered in SP-1 @ 20' bgs and SP-4 @ 15' bgs. No such layers were encountered in Boring B-8 to the maximum 36½ foot depth; therefore, the high-fines content layers are discontinuous. No mottling or other special soil conditions were observed. See attached Boring Logs. The profile boring and test borings were backfilled by our drilling subcontractor.

Preparation of Test Holes: Test holes were drilled using hollow-stem auger equipment to a depth of 25 feet using an 8-inch diameter auger string. In accordance with the Perc Manual, a perforated pipe of 3.25 inches in diameter with filter sock and gravel pack, was utilized in each test hole to minimize the effect of sidewall caving and siltation.

Tests for Seepage Pits: The pre-soak procedure with gravel and perforated piping for seepage pits were utilized during this investigation. Same-day procedures applied for all

test holes based on the rate of seepage measured during pre-soak. All test holes were filled using a hydrant-supplied hose.

Measurement of the Percolation Rate: The water level was adjusted to ground surface at the start of each measured time interval except for the last two intervals/readings, where the water level was adjusted to 4 feet below ground surface. The drop in water level was measured at 10-minute intervals and recorded. The above test procedure was repeated for a total of nine measurement cycles.

Test Results:

Test Data Summary			
Test Hole No.	Test Depth (ft.)	Percolation Rate* (minutes per inch)	Q* (Gallons per Square foot per Day)
SP-1	25	8.44	21.31
SP-2	25	9.36	19.23
SP-3	25	5.92	30.40
SP-4	25	15.05	11.96

* includes gravel packing correction factor

Field Data: See attached Falling Head Percolation Test data sheets for a description of the soils in each test boring and the test results. The attached data sheets include the initial time, final time, change in time, initial depth of water, final depth of water, and change in depth. The lithology down to 11 1/2 feet below the proposed system (25 feet bgs) is also included with the Log of B-8. Also see passing 200 test data on the boring logs.

Discussion of Results

Soils Uniformity: The soil conditions, as encountered within the explorations, were generally uniform and consistent with the depositional environment. The soil profile consists primarily of thickly layered native silty sand (SM) and silty sand with gravel to 1" in size (SM). Layers of limited thickness, relative to the overall soils profile, with fines content higher than 50% as determined with a passing 200 sieve analysis, were encountered in SP-1 @ 20' bgs and SP-4 @ 15' bgs. No such layers were encountered in Boring B-8 to the maximum 36½ foot depth.; therefore, the high-fines content layers are discontinuous. Mottling or other special soil conditions were not observed in samples retrieved from B-8.

Test results do not fall into the definition of “uniform” according to the Perc Manual (4 tests falling with 25% of their mean). The mean of four tests is 9.69 mpi, lowest is 8.44 mpi, slowest is 15.05 mpi. All four tests fall above the allowable category of application rate (4 gallons per square foot per day) and are considered acceptable for the intended use. The design Q may be taken as 4 gallons per square foot per day.

Seepage Pit Design Rate: Using the maximum allowable Q value (Q=4), the design rate may be taken as 25 gallons per square foot per day.

Possible Sources of Error: Perforated pipe and gravel were used to prevent siltation and collapse of test holes. Tests were performed in native material with no shallow bedrock present. No other possible sources of error were noted. Results were as anticipated based on the sedimentary depositional environment and the soils encountered.

Design

General Criteria – Seepage Pits: The percolation rates for the proposed pit disposal area varied from 5.9 to 15.05 minutes per inch (mpi). The most conservative rate obtained was 15.05 mpi. According to the Perc Manual, the assigned application rate is 4 gallons per day per square foot. The separation between the bottom of the proposed system and the historic shallow groundwater level (discussed above) is greater than 200 feet.

Based on a design Q of 4 g/sf/day, the application rate is 25 square feet per 100 gallons of septic tank capacity. For a 3,800-gallon septic tank and based on the Q-value derived from the County manual, the total absorption area required is 950 square feet.

Special Criteria: No special criteria appear applicable to the site.

Plot Plan Per 2022 Uniform Plumbing Code

The project is in a preliminary design stage; therefore, a layout of the proposed septic system (septic tank, pits and piping) was not available at the time of testing.

Discussion, Conclusions and Recommendations

Seepage pit disposal systems for the project should be constructed in accordance with current San Bernardino County DEHS criteria and applicable portions of the Uniform Plumbing Code. All pertinent requirements of the RWQCB should be met.

According to all information available to this firm, the proposed system area contains sufficient area to handle the liquid wastes, provided proper design is achieved. It is our opinion that there is sufficient area at the site for system installation, in addition to a 100 percent expansion area.

The system should be designed by an engineer competent in disposal system design. A properly installed distribution box should be utilized to balance flow and equalize the distribution of effluent to each seepage pit. Based upon the rates obtained and the anticipated usage of the site, sewage mounding should not be a concern.

A copy of this report should be submitted to DEHS for their review and assignment of the final application rate.

A copy of the San Bernardino County's DEHS handout "Taking Care of Your Septic System" should be obtained and utilized. It is available at <https://wp.sbcounty.gov/dph/wp-content/uploads/sites/7/2017/10/Taking-Care-of-your-Septic-System-10-4-17.pdf>

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our

client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

References

California Department of Water Resources, Water Data Library, accessed May 2025, <https://wdl.water.ca.gov/>.

Carson, S.E. and Matti, J.C., 1985, Contour Map Showing Minimum Depth to Ground Water, Upper Santa Ana River Valley, California, 1973-1979, U.S. Geological Survey Miscellaneous Field Studies Map 1802.

Dutcher, L.C. and Garrett, A.A., 1963, Geologic and hydrologic features of the San Bernardino area, California; with special reference to underflow across the San Jacinto fault, U.S. Geological Survey Water Supply Paper 1419.

Fife, D.L., Rodgers, D.A., Chase, G.W., Chapman, R.H., Sprotte, E.C., 1976, Geologic Hazards in Southwestern San Bernardino County, California, California Division of Mines and Geology Special Report 113.

Gosling, A.W., 1967, Patterns of Subsurface Flow in the Bloomington-Colton Area, Upper Santa Ana Valley, California, U.S. Geological Survey Hydrologic Investigations Atlas HA-268.

Attachments

Site Location

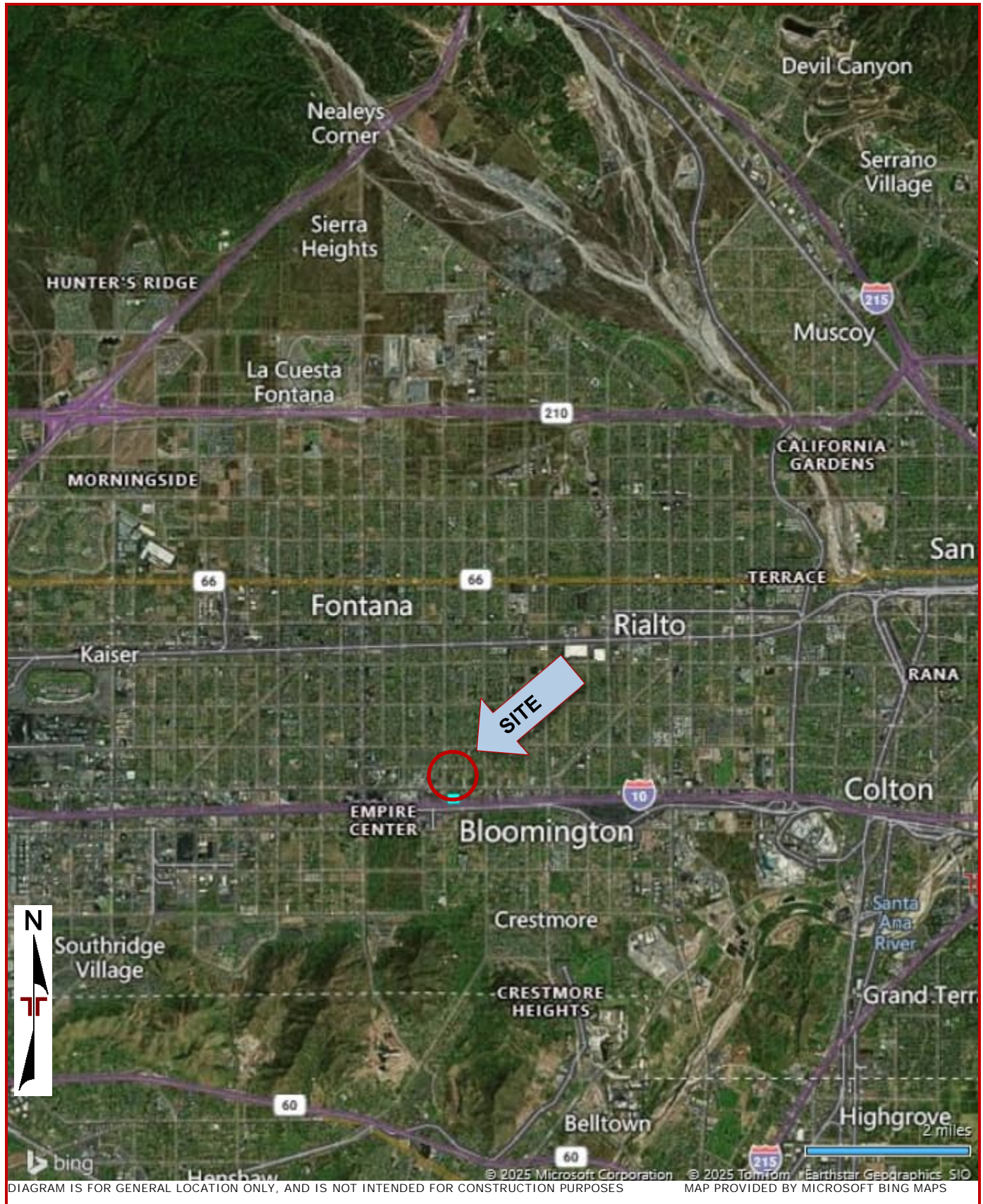
Site Plan

Falling Head Test Data Sheets (4)

Exploratory Boring Logs for B-8, SP-1, SP-2, SP-3, SP-4 (6)

Unified Soil Classification System

Site Location





Site Plan

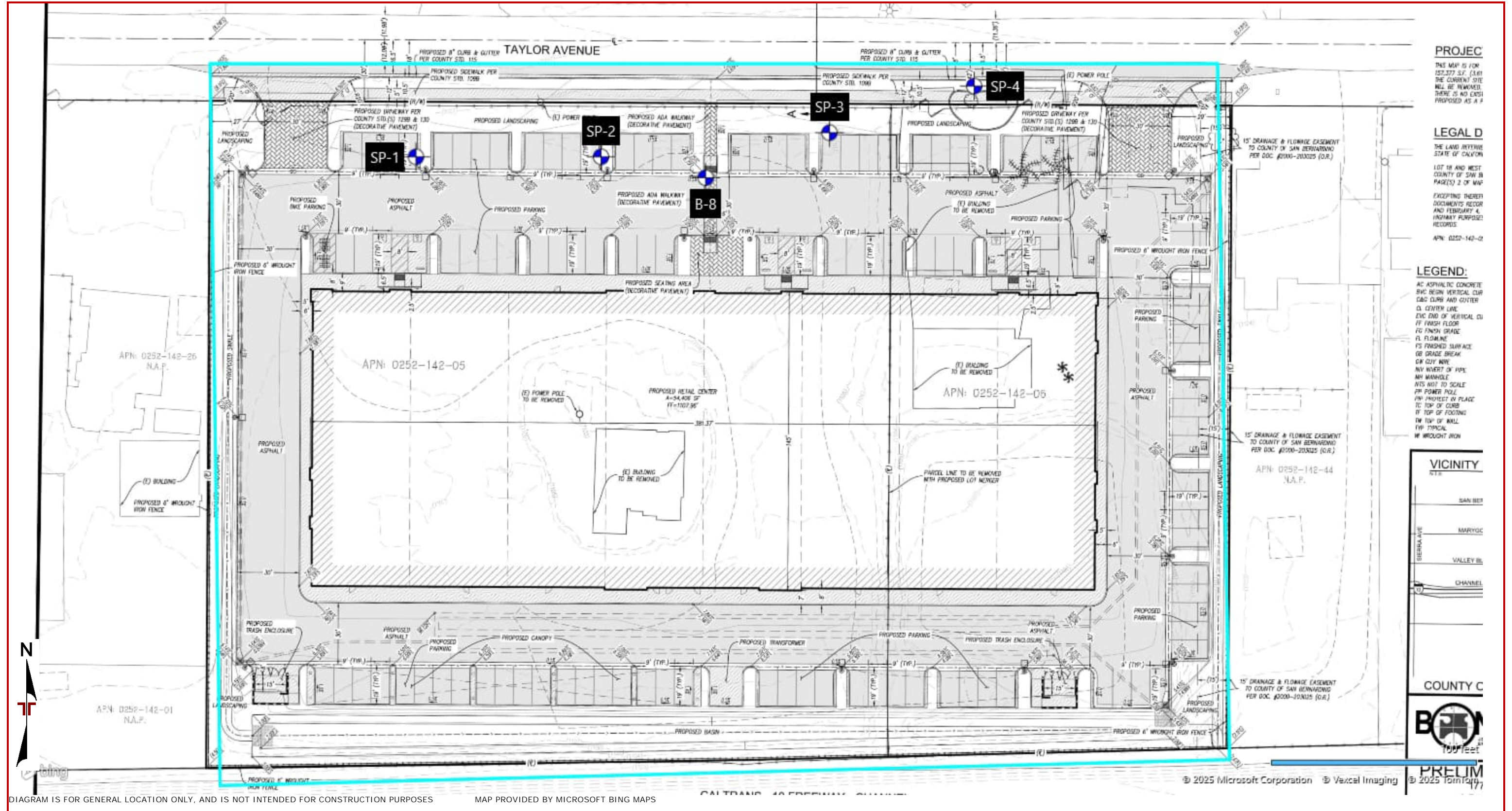


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

CALTRANS 40 PRELIM

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Falling Head Percolation Test

Location:	Alder/Taylor Bloomington, CA	Test Hole Number:	SP-1
Client:	ATHSP	Job Number:	CB255026
Depth (ft):	25	Tested By:	AC
Date Excavated/Presoaked:	4/10/2025	Date Tested:	4/10/2025
Radius of Hole (in)	4	Presoak Method:	same day
Radius of PVC (in.)	3.0	Gravel Packing Correction Factor	
Soil Classification:	(SM) Silty Sand, fine to coarse, with gravel to 2"	Void Ratio of Rock	0.78

Interval No.	Start or End	Time	Elapsed Time (min)	Total Time (min)	Depth to Water Surface (d _s)	Depth to Water Bottom (d _b)	Time (hr) (Δt)	Lave	Diameter (ft)(D)	F	Gallons of Sewage (Q) (gal./sq. ft./day)	Pit mpi
1	Start	10:56 AM	10	10	0.00	25	0.17	18.15	0.67	13.70	27.17	6.62
	End	11:06 AM			13.70							
2	Start	11:08 AM	10	20	0.00	25	0.17	17.80	0.67	14.40	29.12	6.18
	End	11:18 AM			14.40							
3	Start	11:20 AM	10	30	0.00	25	0.17	18.15	0.67	13.70	27.17	6.62
	End	11:30 AM			13.70							
4	Start	11:32 AM	10	40	0.00	25	0.17	18.35	0.67	13.30	26.09	6.90
	End	11:42 AM			13.30							
5	Start	12:31 PM	10	50	0.00	25	0.17	18.25	0.67	13.50	26.63	6.76
	End	12:41 PM			13.50							
6	Start	12:42 PM	10	60	0.00	25	0.17	19.00	0.67	12.00	22.74	7.92
	End	12:52 PM			12.00							
7	Start	12:54 PM	10	70	0.00	25	0.17	19.10	0.67	11.80	22.24	8.09
	End	1:04 PM			11.80							
8	Start	1:06 PM	10	80	4.10	25	0.17	15.05	0.67	11.70	27.99	6.43
	End	1:16 PM			15.80							
9	Start	1:18 PM	10	90	4.10	25	0.17	15.15	0.67	11.50	27.33	6.59
	End	1:28 PM			15.60							
Corrected Rates (Corrected for Gravel Packing)											21.31	8.44

Falling Head Percolation Test

Location:	Alder/Taylor Bloomington, CA	Test Hole Number:	SP-2
Client:	ATHSP	Job Number:	CB255026
Depth (ft):	25	Tested By:	AC
Date Excavated/Presoaked:	4/10/2025	Date Tested:	4/10/2025
Radius of Hole (in)	4	Presoak Method:	same day
Radius of PVC (in.)	3.0	Gravel Packing Correction Factor	
Soil Classification:	(SM) Silty Sand, fine to coarse, with gravel to 2"		Void Ratio of Rock
			0.78

Interval No.	Start or End	Time	Elapsed Time (min)	Total Time (min)	Depth to Water Surface (d _s)	Depth to Water Bottom (d _b)	Time (hr) (Δt)	Lave	Diameter (ft)(D)	F	Gallons of Sewage (Q) (gal./sq. ft./day)	Pit mpi
1	Start	8:47 AM	10	10	0.00	25	0.17	22.00	0.67	6.00	9.82	18.33
	End	8:57 AM			6.00							
2	Start	9:01 AM	10	20	0.00	25	0.17	20.85	0.67	8.30	14.33	12.56
	End	9:11 AM			8.30							
3	Start	9:12 AM	10	30	0.00	25	0.17	21.80	0.67	6.40	10.57	17.03
	End	9:22 AM			6.40							
4	Start	9:24 AM	10	40	0.00	25	0.17	21.60	0.67	6.80	11.33	15.88
	End	9:34 AM			6.80							
5	Start	9:37 AM	10	50	0.00	25	0.17	21.40	0.67	7.20	12.11	14.86
	End	9:47 AM			7.20							
6	Start	9:51 AM	10	60	0.00	25	0.17	21.75	0.67	6.50	10.76	16.73
	End	10:01 AM			6.50							
7	Start	10:05 AM	10	70	0.00	25	0.17	21.85	0.67	6.30	10.38	17.34
	End	10:15 AM			6.30							
8	Start	10:19 AM	10	80	4.00	25	0.17	17.75	0.67	6.50	13.18	13.65
	End	10:29 AM			10.50							
9	Start	10:37 AM	10	90	4.00	25	0.17	18.00	0.67	6.00	12.00	15.00
	End	10:47 AM			10.00							
Corrected Rates (Corrected for Gravel Packing)											9.36	19.23

Falling Head Percolation Test

Location:	Alder/Taylor Bloomington, CA	Test Hole Number:	SP-1			
Client:	ATHSP	Job Number:	CB255026			
Depth (ft):	25	Tested By:	AC			
Date Excavated/Presoaked:	4/10/2025	Date Tested:	4/10/2025			
Radius of Hole (in)	4	Presoak Method:	same day	Radius of PVC (in.)	3.0	Gravel Packing Correction Factor
Soil Classification:	(SM) Silty Sand, fine to coarse, with gravel to 2"			Void Ratio of Rock	5	2.75

Interval No.	Start or End	Time	Elapsed Time (min)	Total Time (min)	Depth to Water Surface (d/d _s)	Depth to Water Bottom (d _b)	Time (hr) (Δt)	Lave	Diameter (ft)(D)	F	Gallons of Sewage (Q) (gal./sq. ft./day)	Pit mpi
1	Start	8:41 AM	10	10	0.00	25	0.17	15.75	0.67	18.50	42.29	4.26
	End	8:51 AM			18.50							
2	Start	8:54 AM	10	20	0.00	25	0.17	16.55	0.67	16.90	36.76	4.90
	End	9:04 AM			16.90							
3	Start	9:08 AM	10	30	0.00	25	0.17	16.70	0.67	16.60	35.78	5.03
	End	9:18 AM			16.60							
4	Start	9:20 AM	10	40	0.00	25	0.17	17.35	0.67	15.30	31.75	5.67
	End	9:30 AM			15.30							
5	Start	9:33 AM	10	50	0.00	25	0.17	16.45	0.67	17.10	37.42	4.81
	End	9:43 AM			17.10							
6	Start	9:47 AM	10	60	0.00	25	0.17	16.95	0.67	16.10	34.19	5.26
	End	9:57 AM			16.10							
7	Start	10:00 AM	10	70	0.00	25	0.17	17.50	0.67	15.00	30.86	5.83
	End	10:10 AM			15.00							
8	Start	10:15 AM	10	80	4.50	25	0.17	13.10	0.67	14.80	40.67	4.43
	End	10:25 AM			19.30							
9	Start	10:30 AM	10	90	4.50	25	0.17	13.30	0.67	14.40	38.98	4.62
	End	10:40 AM			18.90							
Corrected Rates (Corrected for Gravel Packing)											107.19	1.68

Falling Head Percolation Test

Location:	Alder/Taylor Bloomington, CA	Test Hole Number:	SP-4
Client:	ATHSP	Job Number:	CB255026
Depth (ft):	25	Tested By:	AC
Date Excavated/Presoaked:	4/10/2025	Date Tested:	4/10/2025
Radius of Hole (in)	4	Presoak Method:	same day
Radius of PVC (in.)	3.0	Gravel Packing Correction Factor	
Soil Classification:	(SM) Silty Sand, fine to coarse, with gravel to 2"		Void Ratio of Rock
			0.78

Interval No.	Start or End	Time	Elapsed Time (min)	Total Time (min)	Depth to Water Surface (d _s)	Depth to Water Bottom (d _b)	Time (hr) (Δt)	Lave	Diameter (ft)(D)	F	Gallons of Sewage (Q) (gal./sq. ft./day)	Pit mpi
1	Start	2:12 PM	10	10	0.00	25	0.17	21.10	0.67	7.80	13.31	13.53
	End	2:22 PM			7.80							
2	Start	2:24 PM	10	20	0.00	25	0.17	21.45	0.67	7.10	11.92	15.11
	End	2:34 PM			7.10							
3	Start	2:35 PM	10	30	0.00	25	0.17	21.50	0.67	7.00	11.72	15.36
	End	2:45 PM			7.00							
4	Start	2:46 PM	10	40	0.00	25	0.17	21.50	0.67	7.00	11.72	15.36
	End	2:56 PM			7.00							
5	Start	2:57 PM	10	50	0.00	25	0.17	21.25	0.67	7.50	12.71	14.17
	End	3:07 PM			7.50							
6	Start	3:10 PM	10	60	0.00	25	0.17	21.40	0.67	7.20	12.11	14.86
	End	3:20 PM			7.20							
7	Start	3:22 PM	10	70	0.00	25	0.17	21.50	0.67	7.00	11.72	15.36
	End	3:32 PM			7.00							
8	Start	3:33 PM	10	80	4.50	25	0.17	16.75	0.67	7.50	16.12	11.17
	End	3:43 PM			12.00							
9	Start	3:44 PM	10	90	4.50	25	0.17	16.90	0.67	7.20	15.34	11.74
	End	3:54 PM			11.70							
Corrected Rates (Corrected for Gravel Packing)											11.96	15.05

Boring Log No. B-8

Graphic Log	Location: See Exploration Plan Latitude: 34.0688° Longitude: -117.4164°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines	
	Depth (Ft.)	Approximate Elevation: 1106.6 (Ft.)							
	2.0	1104.6							
	FILL - POORLY GRADED SAND WITH SILT (SP-SM) , trace gravel, brown								
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) , fine to coarse grained, brown, gravel to 1/2" medium dense		5	X		10-9-15	2.0	114	
			10	X		11-13-15			
			15	X		11-22-25	0.2	116	6.8
SILTY SAND (SM) , fine grained, light brown, medium dense		15.0	1091.6	X	9-8-11 N=19			39.0	
POORLY GRADED SAND WITH SILT (SP-SM) , trace gravel, fine to coarse grained, brown, dense, gravel to 1/2"		20.0	1086.6	X	10-15-19 N=34			8.9	
POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) , brown, gravel to 3/4" very dense		25.0	1081.6	X	14-29-35 N=64			7.6	

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered</p>	<p>Drill Rig CME-75</p> <p>Hammer Type Automatic</p> <p>Driller 2R Drilling</p>
<p>Notes</p>	<p>Advancement Method 8" Hollow Stem Auger</p> <p>Abandonment Method Boring backfilled with cement-bentonite grout upon completion.</p>	<p>Logged by CR</p> <p>Boring Started 03-31-2025</p> <p>Boring Completed 03-31-2025</p>

Boring Log No. B-8

Graphic Log	Location: See Exploration Plan Latitude: 34.0688° Longitude: -117.4164°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines
	Depth (Ft.) Approximate Elevation: 1106.6 (Ft.)							
	POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM) , brown, gravel to 3/4" <i>(continued)</i>	30.0						
	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM) , fine to coarse grained, brown, dense, gravel to 1"	1076.6	30	X		21-19-11 N=30		6.5
fine to coarse grained, very dense, gravel to 3/4"	1070.1	35	X		18-41-34 N=75		6.1	
Boring Terminated at 36.5 Feet								

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered

Drill Rig
 CME-75

Hammer Type
 Automatic

Driller
 2R Drilling

Notes

Advancement Method
 8" Hollow Stem Auger

Logged by
 CR

Abandonment Method
 Boring backfilled with cement-bentonite grout upon completion.

Boring Started
 03-31-2025

Boring Completed
 03-31-2025

Boring Log No. SP-1

Graphic Log	Location: See Exploration Plan Latitude: 34.0688° Longitude: -117.4168°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines
	Depth (Ft.) Approximate Elevation: 1106.4 (Ft.)							
X	FILL - SILTY SAND (SM) , trace gravel, brown	1.5						
.	SILTY SAND (SM) , trace gravel, brown medium dense	5	X		13-13-13 N=26			
.		10	X		6-10-11 N=21			
.		15	X		6-8-7 N=15			
	SANDY SILT (ML) , brown, very stiff	20.0	X		6-9-11 N=20			53.0
.	SILTY SAND (SM) , trace gravel, brown, medium dense	25.0	X		10-11-13 N=24			
	Boring Terminated at 26.5 Feet	26.5						
		1079.9						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered

Drill Rig
 CME-75

Hammer Type
 Automatic

Driller
 2R Drilling

Notes

Advancement Method
 8" Hollow Stem Auger


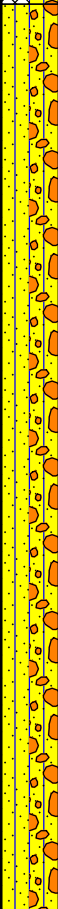
Logged by
 CR

Abandonment Method
 Boring backfilled with cement-bentonite grout upon completion.

Boring Started
 03-31-2025

Boring Completed
 03-31-2025

Boring Log No. SP-2

Graphic Log	Location: See Exploration Plan Latitude: 34.0688° Longitude: -117.4165°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines
	Depth (Ft.) Approximate Elevation: 1106.4 (Ft.)							
	FILL - SILTY SAND WITH GRAVEL (SM) , brown	1.5						
	SILTY SAND WITH GRAVEL (SM) , brown medium dense	1104.9						
		5	X		4-7-12 N=19			
		10	X		7-13-14 N=27			
		15	X		10-12-13 N=25			
		20	X		6-9-10 N=19			38.0
		25	X		6-11-12 N=23			39.0
	SILTY SAND (SM) , fine grained, brown, medium dense	1086.4						
	Boring Terminated at 26.5 Feet	26.5						
		1079.9						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered

Drill Rig
 CME-75

Hammer Type
 Automatic

Driller
 2R Drilling

Notes

Advancement Method
 8" Hollow Stem Auger

Logged by
 CR

Abandonment Method
 Boring backfilled with cement-bentonite grout upon completion.

Boring Started
 03-31-2025

Boring Completed
 03-31-2025

Boring Log No. SP-3

Graphic Log	Location: See Exploration Plan Latitude: 34.0688° Longitude: -117.4162°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines
	Depth (Ft.) Approximate Elevation: 1106.6 (Ft.)							
2.0	FILL - SILTY SAND (SM) , trace gravel, brown	1104.6						
	SILTY SAND (SM) , trace gravel, brown							
	medium dense	5	X		4-10-8 N=18			
		10	X		8-10-14 N=24			
	fine to coarse grained	15	X		9-8-11 N=19			22.0
20.0	GRAVELLY SAND (SW) , trace silt, brown, dense	1086.6	X		11-20-29 N=49			
	very dense	25	X		18-31-34 N=65			
26.5	Boring Terminated at 26.5 Feet							
		1080.1						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered

Drill Rig
 CME-75

Hammer Type
 Automatic

Driller
 2R Drilling

Notes

Advancement Method
 8" Hollow Stem Auger

Logged by
 CR

Abandonment Method
 Boring backfilled with cement-bentonite grout upon completion.

Boring Started
 03-31-2025

Boring Completed
 03-31-2025

Boring Log No. SP-4

Graphic Log	Location: See Exploration Plan Latitude: 34.0689° Longitude: -117.4159°	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Percent Fines
	Depth (Ft.) Approximate Elevation: 1105 (Ft.)							
	SILTY SAND (SM) , trace gravel, brown medium dense	5	X		5-9-7 N=16			
	10.0 SILTY SAND WITH GRAVEL (SM) , brown, medium dense	10	X		5-7-6 N=13			
	15.0 SANDY SILTY CLAY (CL-ML) , trace sand and gravel, fine grained, brown, very stiff	15	X		5-7-11 N=18			65.0
	20.0 SILTY SAND (SM) , trace gravel, brown, medium dense	20	X		7-9-12 N=21			
	26.5 SILTY SAND (SM) , trace gravel, brown, medium dense	25	X		7-12-13 N=25			
	Boring Terminated at 26.5 Feet	26.5						

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered</p>	<p>Drill Rig CME-75</p> <p>Hammer Type Automatic</p> <p>Driller 2R Drilling</p>
<p>Notes</p>	<p>Advancement Method 8" Hollow Stem Auger</p> <p>Abandonment Method Boring backfilled with cement-bentonite grout upon completion.</p>	<p>Logged by CR</p> <p>Boring Started 03-31-2025</p> <p>Boring Completed 03-31-2025</p>



PERCOLATION TEST NOTIFICATION

Submit the form via fax, email or in person at least two working days before testing.

THIS SECTION TO BE COMPLETED BY A QUALIFIED PROFESSIONAL				
QUALIFIED PROFESSIONAL'S INFORMATION				
Firm Name: Terracon			Date: April 1, 2025	
Firm Address: 1355 E. Cooley Drive		City: Colton	State: CA	Zip: 92324
Firm Contact Person: John McKeown		Email: john.mckeown@terracon.com		Phone Number: 909.503.5082
SITE INFORMATION				
Owner's Name: Hae Park		Assessor's Parcel Number (APN): 025214205		
Site Address: 17783 Taylor Avenue		City: Bloomington	State: CA	Zip:
Email: info@belairswapmeet.org			Phone Number: 909.721.7303	
BILLING INFORMATION				
Environmental Health Services (EHS) may need to be onsite to observe percolation testing. This will be billed at the current hourly professional rate. Provide billing information below or check one of the following if the information is the:				
<input checked="" type="checkbox"/> Same as Qualified Professional's Information			<input type="checkbox"/> Same as Site Information	
Billing Name:				
Billing Address:		City:	State:	Zip:
Email:			Phone Number:	
PROJECT INFORMATION				
Disposal field	<input type="checkbox"/> Leach Lines		<input checked="" type="checkbox"/> Seepage Pits	<input type="checkbox"/> Alternative Treatment System
Exploratory Boring(s)	Boring Date(s): 4/1/25	Boring Time: 0800	Number of Borings: 4	Depth of Boring(s) in ft: 25
Testing	Test Date(s): 4/7/25	Test Time: 0800	Number of Tests: 4	Depth of Test Hole(s) in ft: 25
Project Type	<input type="checkbox"/> Single Family Residence		<input type="checkbox"/> Multi-Family Residential	
	<input checked="" type="checkbox"/> Commercial			
	Lot Size (ft ² /acres):	Number of Units:		Lot Size (ft ² /acres): 3.7
	Lot Size (ft ² /acres): 3.7		Estimated Flow: TBD	
Select one of the following:				
<input type="checkbox"/> Tentative Tract (TT) #:		<input type="checkbox"/> Tentative Parcel Map (TPM) #:		
Number of Proposed Lots:		Original Lot Size (ft ² /acres):	Average New Lot Size (ft ² /acres):	
A sewer connection will be required if a sewer is available within 200 ft. of the nearest property line (add 100 ft. for each additional lot). A "Sewer Will Not Serve" letter may be required prior to submittal of the percolation report.				
Site Conditions	Historic groundwater level in feet: >100'		Slope in disposal area (%): <5%	
	Source of Water:			
	<input type="checkbox"/> Private Well		<input checked="" type="checkbox"/> Water Purveyor	
	<input type="checkbox"/> Check box if the parcel is on Forest Service land			
<input type="checkbox"/> Check box if the lot is within 100 feet of a river/stream				

Indemnification: The Contractor agrees to indemnify, defend (with counsel reasonably approved by County) and hold harmless the County and its authorized officers, employees, agents and volunteers from any and all claims, actions, losses, damages, and/or liability arising out of this contract from any cause whatsoever, including the acts, errors or omissions of any person and for any costs or expenses incurred by the County on account of any claim except where such indemnification is prohibited by law. This indemnification provision shall apply regardless of the existence or degree of fault of indemnities. The Contractor's indemnification obligation applies to the County's "active" as well as "passive" negligence but does not apply to the County's "sole negligence" or "willful misconduct" within the meaning of Civil Code Section 2782.

By initialing and submitting this form, you acknowledge that you have read and understand the above statement.

Initials: jsm

For Office Use Only

Fee:	FA Number:	Record ID:	PE Number:
Late Fee: <input type="checkbox"/> Y <input type="checkbox"/> N	Designated Employee:	Received By:	Date:
Check One: <input type="checkbox"/> New <input type="checkbox"/> Transfer <input type="checkbox"/> Reactivate	Changes (please specify):		

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	$Cu < 4$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F
			Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}
		Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Fines classify as CL or CH	GC
	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E			SW	Well-graded sand ^I
	Sands with Fines: More than 12% fines ^D		$Cu < 6$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	SP	Poorly graded sand ^I
			Fines classify as ML or MH	SM	Silty sand ^{G, H, I}
	Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots above "A" line ^J	CL
PI < 4 or plots below "A" line ^J				ML	Silt ^{K, L, M}
Organic:			$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OL	Organic clay ^{K, L, M, N} Organic silt ^{K, L, M, O}
			Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line
PI plots below "A" line		MH			Elastic silt ^{K, L, M}
Organic:		$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$		OH	Organic clay ^{K, L, M, P} Organic silt ^{K, L, M, Q}
		Highly organic soils:		Primarily organic matter, dark in color, and organic odor	

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N PI ≥ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.

