Focused Desert Tortoise & Burrowing Owl Presence/Absence Surveys for Proposed 10 MW AC Photovoltaic Solar Array "Victorville Solar"

(90 Acres; APN #472-011-34)
Victorville 7.5 Minute Quadrangle,
Section 23, Township 6 N, Range 4 W
San Bernardino County, California

Prepared for

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Executive Summary:

At the request of EPD Solutions, Inc. (EPD) & San Bernardino County Department of Public Works (SBCDPW), Phoenix Biological Consulting (Phoenix) initiated presence/absence desert tortoise and burrowing owl surveys on 90 acres within a portion of a single assessor parcel (APN 472-011-34) on which SunEdison wishes to construct of a 10 MW AC photovoltaic (PV) solar energy generation facility within 57 acres (the "Victorville Solar Project").

The initial DT and BUOW surveys were conducted during the winter of 2014 on February 14th and 15th in preparation for geotechnical feasibility studies and to update the assessment of biological resources on the site for the proposed Victorville Solar Project and associated California Environmental Quality Act (CEQA) analysis. The survey results for desert tortoise were negative. No occupied burrows, scat, shell fragments or other signs indicative of desert tortoise were observed within the project area, gen-tie line and associated buffers, or the zone of influence. One degraded, inactive burrow was detected that may have been a tortoise burrow. It does not appear to be active nor occupied. The initial survey and subsequent breeding season burrowing owl survey results were positive. Two adults and one juvenile owl were observed within the project area and four burrows, along the eastern edge, had owl sign present and appeared active. Owl presence was also confirmed by utilizing a trail camera (Figure J). Suitable owl burrows were also observed within the project boundaries and gen-tie buffers. The survey was also positive for desert kit fox burrows which were incidentally detected during the tortoise surveys and recorded on a trail camera. However, the kit fox burrows on site appeared inactive and no natal dens or pups were observed.

Introduction and Purpose:

The Victorville Solar project is located on lands owned and operated San Bernardino County Department of Public Works. Acting in its capacity as a lead agency under CEQA, the County would need to determine the potential for the project to result in significant impacts, consider mitigation measures and alternatives capable of avoiding significant impacts, avoiding take of listed species and consider the environmental effects of the project as part of its decision-making process.

The initial biological survey was conducted in response to a geotechnical feasibility request to determine the status of desert tortoise within the enclosed, fenced portion of the site. The geotechnical study was needed as a preliminary feasibility analysis for SunEdison's proposed 10-Megawatt MW AC photovoltaic (PV) solar energy generation facility (the "Victorville Solar Project") on approximately 57 acres, within the assessor parcel (APN 472-011-34) located in the County of San Bernardino. Due to the suitable habitat which consist of relatively undisturbed creosote scrub and the presence of burrows with owl sign that was detected during the initial survey, follow-up breeding season burrowing owl surveys were conducted to complete the CDFW protocol requirements. The survey area included the entire 90 acres of the phase III portion of the landfill (Figure B-C). The survey results for BUOW within the project site were positive. Two adult burrows owls and one juvenile were observed along the eastern perimeter of the phase 3 landfill site. In addition to the owl sightings, owl sign was present at four burrows along the eastern edge of the site (Figure B). Suitable burrows were also observed during the gen-tie buffer survey but the follow-up surveys indicated the burrows are inactive. The tortoise survey results were negative. No tortoise sign (scat, tracks, burrows, etc.) was observed on site nor within the zone of influence surveys.

Desert Tortoise & Burrowing Owl, Presence/Absence Focused Survey Results

Project Background Information:

The initial baseline biological survey was conducted in 1997 by Lilburn (Lilburn, 1997). Three live tortoises, seven carcasses and forty-five burrows, thirteen pallets and sixteen scat were recorded within the entire landfill project site during the initial surveys. No rare plants were observed during this survey effort. In response to a request from SunEdison, a preliminary site visit was conducted on December 5, 2013 to address potential impacts associated with the development of a photovoltaic project within the phase 3 portion of the landfill. The preliminary results indicated the project site is situated within relatively undisturbed creosote/bursage scrub vegetation and within the range of both the desert tortoise, Mohave ground squirrel, the burrowing owl, Townsend's big-eared bat and several potential sensitive plant species. The Mohave ground squirrel is addressed in a separate document and the presence/absence surveys are being conducted during the 2014 spring survey season.

The site is situated in the Phase 3 portion of the Victorville Sanitary Landfill (VSL). The site has been previously fenced and the County previously certified an Environmental Impact Report (EIR) for a multiphase expansion of the VSL (Lilburn, 2004), including the Phase 3 area where the proposed solar facility is located. As part of the mitigation requirements the County of San Bernardino transferred 2,251 acre to the Bureau of Land Management on October 19, 1999. 250 acres were specifically included for the Victorville Landfill to mitigate for loss of desert tortoise habitat and jurisdictional waters. 36 acres of the 250 acres were state jurisdictional waterways. This mitigation area is referred to as the Black Hills Mitigation Area located in the Gravel Hills/Black Mountains, approximately 13 miles southwest of Superior Dry Lake. During the EIR preparation process and subsequently, desert tortoise surveys were conducted and several adult tortoises were relocated off-site. Tortoise-proof fencing was installed around the perimeter of the project, thus eliminating potential for desert tortoise to enter/exit the area; however, because damage occurred to the fence subsequent to installation this survey was determined to be necessary by the County and resource agency personnel. Fence maintenance is currently being provided by a private contractor.

Habitat and Land Use:

The site is bordered to the east by the VSL. Open creosote scrub is present on the south, west, and northern edges (Figures G-I). The surrounding land ownership includes Bureau of Land

Management (BLM) public land and private land; Cemex Construction Materials Pacific. Excluding the VSL, the surrounding land is undeveloped creosote scrub. Both improved county roads and unimproved two tracks roads border the site on all sides. There are trace amounts of refuse dispersed throughout the site and trace amounts of ground disturbance, presumably occurring before the site was fenced. However in the areas surrounding the site there is a fair amount of refuse and disturbances due to transmission line/railroad and high pressure gas transmission line right-of-ways and off-highway vehicle (OHV) activity driving on two-track roads and using desert washes as de facto roads. The land to the west is open creosote scrub for approximately 3 miles, to the north there is habitat continuity for >10 miles, although topography may limit desert tortoise dispersal to some degree. The habitat connectivity may provide connectivity for species to move and disperse through the area but due to the adjacent landfill activities the loss of connectivity is not expected to be a significant impact.

The terrain of the 90 acre site includes a mix of small rolling hills, braided washes and some areas of incised (>15 feet) desert washes. The elevation is 3,000 feet. The terrain is composed of gravelly, loam soils which are suitable for fossorial reptiles and mammals to create burrow. Also, there is exposed caliche in some of the steeper washes which also provides some burrow habitat in the wash banks in the form of caliche burrows. The majority of caliche burrows are small and are inhabited by desert wood rats (*Neotoma sp*.). The vegetation community within the site is comprised of creosote bush scrub *(Larrea tridentate*)/Bursage (*Ambrosia dumosa*) scrub with low density Joshua tree (*Yucca brevifolia*). Dominant perennials include creosote (*Larrea tridentate*), burro-weed (*Ambrosia dumosa*), Joshua tree (*Yucca brevifolia*) and white ratany (*Krameria grayia*). Annuals were not readily indefinable due to the timing of the surveys. The entire list of vascular plants detected during the survey can be found on Table 6.

There are no other types of habitat present on site except for creosote/bursage scrub and there are no sensitive habitat types such as mesquite bosques, riparian habitat or fan palm oasis. Joshua trees and Mohave yuccas are present in low density on site. The protected desert plants will be recorded and relocated prior to disturbance. The soils on site are Nebona-Cuddeback and Cajon-Arizo Complex which are characterized as stabilized, well-drainged sandy-loamy and gravelly sand in alluvial fans (NRCS, 2014). The soils originate from the Quartzite granitic mountains to the north-northwest of the site. These soils provide suitable consistency for fossorial reptiles and mammals to create burrows. Due to these findings, presence/absence surveys were implemented on February 14-15th 2014 at the request of the EPD Solutions, the County of San Bernardino and the resource agencies.

Project Location and Description:

The site is located northeast of the Victorville city limits, bordered to the west and north by Quarry Road, to the east by Victorville Landfill, and to the south by Stoddard Wells Road. The site is located on the Victorville 7.5 minute quadrangle topographic map (Figure C). The parcel is are located within Section 22 and 23, Township 6 N & Range 4W, San Bernardino County. Interstate Highway 15 is located approximately .75 miles south and east of the project site.

The Victorville Landfill Solar project is a proposed 10 MW AC photovoltaic system located in San Bernardino County and will utilize polycrystalline silicon (P-Si) PV modules and a flat tracker mounting system. The project is sited on 90 acres of land owned by San Bernardino County adjacent to the Victorville Sanitary Landfill (VSL). The site will cover approximately 57 acres. The project will be interconnected to SCE's distribution system via a line extension to the north across the railroad tracks to existing poles. Approximately two new poles will be needed to connect the existing line.

Target Sensitive Species Description:

Desert Tortoise

The desert tortoise (*Gopherus agassizii*) is a desert dwelling reptile with large elephantine appendages and a dome-shaped shell. Desert tortoise range includes most of the Mojave and Colorado deserts in California. It is inhabits portions of Nevada, Arizona and Mexico. It was listed, by emergency rule, as an endangered species by the USFWS in August 4th, 1989 and later downgraded to threatened status on April 2nd, 1990. It is also listed as threatened species by the California Department of Fish and Game (CDFG). Several human induced factors have led to their demise: urban development in the desert, OHV use, livestock, collecting and poaching and increased Common Raven (*Corvus corax*) populations which predate on juvenile and immature tortoises. Other factors which have had a negative effect on desert tortoise populations include diseases such as *Mycoplasma agassizii*, herpes virus and shell diseases such as cutaneous dyskeratosis. Although, it is believed these diseases may have been around for several decades, when combined with environmental stress factors such as drought, air pollution and increased predation from ravens and dogs the otherwise and somewhat previous acceptable levels of disease and mortality within the population began to increase rapidly. Large die-offs in the populations were reported in the 1980s and 1990s during study plots conducted by Dr. Kristin Berry and others in the California deserts which has led to further concern for their long-term viability. Natural predators include coyotes, mountain lions and badgers.

Desert tortoise habitat can include desert washes, desert flats, bajadas, alluvial fans, rolling hills, rocky hills and valleys. Vegetation communities that are known to provide suitable habitat include creosote scrub, saltbush scrub, Joshua tree woodlands, Mojave mixed-woody scrub, juniper woodlands and blackbrush scrub within elevations of 300 to 5,000 feet (USFWS, 2010). Preferred tortoise habitat (areas of high density), in the Mojave Desert, typically include areas along mid-upper bajadas with abundant annuals; washes and friable soils for burrow excavation in the 2,500 to 3,500 elevation zone.

Desert tortoises can be active during any month of the year but usually are dormant through most of the winter months and during hottest periods of the summer. Tortoise activity increases significantly with the onset of spring annual vegetation when temperatures range from the 75-85 °F and during periods of precipitation. Courtship and mating occur during the early spring months and egg-laying can occur during late spring to early summer. Neonates are born in late summer-early fall and usually spend several years occupying rodent burrows and feeding on annuals within close proximity natal burrow. Desert tortoises reach sexual maturity around twelve years of age when they reach a mean carapace length of approximately 160 millimeters. Tortoises live in dirt burrows, caliche caves and rock shelters which can be up to 6-9 meters in length. The average home range of a female adult tortoise is 35 to 40 acres and an adult male can 40 to 120 acres and may extend up to a square mile (USFWS, 2010). Tortoises are thought to live up to 60-80 years in optimum conditions. They are listed as a federally and state threatened. It is illegal to harass, harm, pursue or take these lizards without appropriate permits and federal/state authorization.

Burrowing Owl

Burrowing owls (BUOW; *Athene cunicularia*) are a small, long-legged, ground-dwelling owl that occurs from British Columbia, throughout North America and portions of Central and South America. They are typically nocturnal but are also known to be crepuscular (active dawn and dusk). Typical prey items include invertebrates, small mammals, lizards, snakes and small birds. They nest underground in burrows and clutches range between 9-11 eggs. Burrow entrances and nests area adorned with cow chips, feathers, grass, food items and dog feces. They are typically monogamous and tend to exist in colonies. They exhibit high nest fidelity and will return to the same burrow nest site for multiple years.

Burrowing owls occur in a variety habitat types throughout California; such as, annual and perennial grasslands, agriculture fields, deserts and scrublands characterized by low-growing vegetation (CBOC, 1993). Suitable owl habitat may also include areas with trees and shrubs where canopy cover is less than 30% of ground surface. Suitable burrows may include both

artificial and natural burrows that provide shelter from the elements as well as protection from predators. Burrowing owls also use burrows for nesting during spring and early summer months. California ground squirrel (CGS; *Spermophilus beecheyi)* is known to provide suitable burrows as well as inactive coyote, kit fox, badger and desert tortoise burrows. Burrowing owls can also create and/or modify existing burrows. Artificial burrows may include culverts, concrete pipes, wood debris piles and openings beneath cement or asphalt.

In desert scrub habitat, they are usually associated with canid (i.e. fox and coyote) and CGS burrows along mounds that provide vistas for viewing prey and predators. They are also found along washes and wash banks where small mammal and invertebrate abundance is higher. Burrowing owls are a BLM sensitive species and a California species of special concern. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests or eggs (CBOC, 1993).

Desert Kit Fox

The desert kit fox (*Vulpes macrotis arsipus*) range is primarily in the southwestern United States and northern and central Mexico. Is protected as a fur-bearing mammal under California Code of Regulations, Title 14. The desert kit fox is not listed as a threatened or endangered nor a species of special concern. The kit fox is the smallest fox species found in North America. It has large ears that help the fox lower its body temperature and give it exceptional hearing. Males are slightly larger than females. The average weight is between 3.5 and 6.0 lbs. It usually has a gray coat, with rusty tones, and a black tip to its tail. Its color ranges from yellowish to gray, and the back is usually darker than the majority of its coat; its belly and inner ears are usually lighter. It has distinct dark patches around the nose. The kit fox is mostly nocturnal but sometimes ventures out of its den during the day. The diet consists of mostly small animals such as kangaroo rats, cottontail rabbits, black-tailed jackrabbits, insects, lizards, snakes, and ground-dwelling birds. It will scavenge carrion. Desert kit foxes inhabit desert scrub with sagebrush (*Artemisia tridentata)* and saltbrush (*Atriplex polycarpa)*. They can be found in urban and agricultural areas as well.

Justification, Methodology and Qualifications:

California Department of Fish and Wildlife (CDFW) and United States Fish & Wildlife (USFWS) along with SBCDPW were consulted to determine the appropriate actions prior to conducting geotechnical feasibility studies during the winter of 2013-14. It was determined that presence/absence surveys should be initiated to determine if tortoises are still present within the fenced site (Phase 3). Due to the fact that the proposed site is located within the range of

the desert tortoise and burrowing owl and desert tortoises have been documented within the site during previous surveys, presence/absence surveys were initiated to determine if tortoises still occupy the site. The initial desert tortoise and burrowing owl surveys occurred on February 14-15, 2014. The desert tortoise and burrowing owl field surveyors included: Ryan Young, Ryan Mann, Mikaila Negrete, and Cathy Halley. The combined desert tortoise and burrowing owl survey experience of the entire crew is 37 years. Furthermore, all members of the survey crew have completed the desert tortoise handling workshop in Ridgecrest, CA through the Desert Tortoise Council. Ryan Young, Ryan Mann and Cathy Halley have been approved as authorized tortoise handlers on several federal projects.

The initial survey methods consisted of walking 10-meter wide belt transects surveys in a north-south orientation, using hand-held Garmin GPS units with a 3-5 meter accuracy, within the project footprint in a north to south direction starting approximately a half hour after sunrise and ending no later than a half hour before sunset. Survey teams used hand-held mirrors to view into any potential burrows. During the survey, the surveyors search images included: live tortoises, tortoise carcasses such as scutes and bone fragments, tortoise scat, eggshell fragments, tortoise courtship rings, burrows, burrowing owls, owl feathers, pellets, owl whitewash (scat) and owl vocalizations. Typically, burrowing owl surveys require 20 meter wide belt transects (CDFW, 2012). The surveyors exceeded the standard burrowing owl surveys by incorporating 10 meter wide transects throughout the site. The 10-meter wide transects distance allowed the surveyors to survey for both ground-dwelling species, concurrently, with a high level of confidence in detection. Surveyors average coverage rate was 1.5 miles per hour, with an average daily coverage rate of 15 acres per day, per person. The surveyors also conducted zone-of-influence transects and burrowing owl buffer-zone surveys wherever possible. Zone-of-influence surveys were conducted at 200m, 400m and 600m from the gen-tie line since this area is not currently fenced and is outside the landfill. Burrowing owl buffer-zone surveys were conducted at 20 meter intervals out to 150 meters from the proposed gen-tie transmission line. All transects are depicted on Figure D. The follow-up burrowing owl breeding season surveys occurred during the months of February and June. The entire site was resurveyed during each site visit using 20 meter belt transects. All burrows detected were recorded for changes in sign and owl observations (Tables 1-2; Figure K-N).

Weather Conditions:

Weather conditions during the survey effort consisted of cool mornings warming in the afternoon. Winter rainfall of 2013-2014 was far below average. The forage availability for desert tortoises was very low due to the timing of the survey, availability of suitable grasses and forbs may increase with the arrival of spring precipitation. Although the invertebrate population was

low there appeared to be substantial small mammal prey base (rodent burrows were abundant) in order to support burrowing owls in the area throughout the year. The morning and afternoon temperatures and weather conditions were recorded.

Table 1: Burrowing Owl and Tortoise Survey Weather Summary

Date	Begin Temp (°F)	End Temp (°F)	Begin Cloud %	End Cloud %	Begin Wind (MPH)	End Wind (MPH)	Start Time	End Time
Presence/Absence Tortoise Survey and Burrowing Owl Survey								
02/14/2014	67	81	15	10	2	2	05:45	18:30
02/15/2014	58.5	78	85	95	4.5	8.5	05:30	18:15
Additional Burrowing Owl Breeding Season Surveys								
04/15/2014	72	85	20	20	5	6	05:15	18:30
05/09/2014	75	86	15	15	7	5	05:15	18:30
06/19/2014	82	93	10	15	4	4	05:15	18:30
07/09/2014	83	95	15	20	3	5	05:15	18:30

Rare, Endangered or Sensitive Species Field Survey Results:

Desert Tortoise

The site was negative for desert tortoise and tortoise sign (scat, shell fragments, tracks, courtship rings) within the project boundaries, zone-of-influence, gen-tie transmission line and associated buffers. However one deteriorated, possible tortoise burrow was located within the proposed solar site during the initial surveys. The burrow was too deep to see the end of but the shape of the burrow was typical tortoise shape. It is suspected that the burrow may be a remnant sign of the tortoises that were present in the past. The burrow was re-checked during the subsequent visits and appears to be inactive. Several canid burrows were observed within the project area, however no tortoise sign was associated with these burrows. The project is not located in desert tortoise critical habitat and there are no conservation area in or adjacent to the site (Figure E-F). All reptile species encountered during the desert tortoise survey are listed on Table 5.

Burrowing Owl

The site was positive for occupied burrowing owl habitat within the project area (Figure B). Two adult burrowing owls and one juvenile were observed at WPT 25 & 24, along the eastern perimeter fence. The adult male owl was observed flying along the eastern portion of the site on several occasions. All three owls were detected using a trail camera that was positioned in front of the nest burrow (Figure J). Several other suitable burrows were located within the

project site and within the 150 meter buffer survey of the gen-tie line. However, no other burrows had owl sign present. The site consists of one owl territory based on the survey results.

Other Sensitive Bird Species

Loggerhead Shrikes (*Larius ludovicianus*), a species of special concern during nesting, were observed several times during the survey. Additionally three (3) inactive bird nest were observed during the survey. The surveyors paid particular attention to all Joshua trees encountered to ensure no hawks were nesting in them. No raptors were sighted foraging while the conducting the tortoise and burrowing owl survey. All bird species detected are included on Table 5.

Mammals

No threatened or endangered mammal species were detected during the survey effort. Two kit fox burrows were documented off site and three kit fox burrows were on site. One desert kit fox was observed via the trail camera at WTP 25, along the eastern perimeter fence. The desert kit fox is not listed as a threatened or endangered species. It is listed as a BLM sensitive species and is protected as a fur-bearing mammal under California Code of Regulations, Title 14. The kit fox burrows did not appear to be active on site and no natal dens or pups were observed.

Table 2: Initial Field Survey Results (February 14-15, 2014)

Record Number[1]	Date	Easting (NAD 83)	Northing (NAD 83)	Photo Number	Project Footprint (PF), Zone-of-Influence (ZOI), Owl Buffer (OB)	Dimensions (Width X Height X Length)	Description
1	02/14/2014	474589	3827992	1	PF	19wX21hXunk	Inactive kit fox burrow. No tortoise or owl sign.
2	02/14/2014	474627	3828000	2	PF	18wX18hX10l	Canid dig. No tortoise or owl sign.
3	02/14/2014	474716	3827774	3	PF	16wX13hXunk	Small mammal burrow. No tortoise or owl sign.
4	02/14/2014	474735	3827852	4	PF	28wX25hXunk	Canid burrow. No tortoise or owl sign.
5	02/14/2014	474774	3827843	5	PF	18wX12hX20l	Small mammal burrow. No tortoise or owl sign.
6	02/14/2014	474834	3827626	6	PF	17wX20hX50l	Old canid burrow. No tortoise or owl sign.
7	02/14/2014	474809	3827694	7	PF	20wX23hX50l	Old canid burrow. No tortoise or owl sign.
8	02/14/2014	474864	3827888	8-9	PF	22wX20hXunk	**Possible tortoise burrow. Inactive. Deteriorated. Six burrowing owl pellets below burrow in wash (tan color, not fresh).**
9	02/14/2014	474892	3827866	10	PF	16wX15hX30l	Small mammal burrow. No tortoise or owl sign.
10	02/14/2014	474898	3827446	11	PF	14wX10hXunk	Small mammal burrow. No tortoise or owl sign.
11	02/15/2014	475192	3827554	12	PF	15wX11hXunk	Small mammal burrow. No tortoise or owl sign.
12	02/15/2014	475180	3827588	13	PF	15wX15hXunk	Small mammal burrow. No tortoise or owl sign.
13	02/15/2014	475125	3827475	14	PF	16wX17hXunk	Small mammal burrow. No tortoise or owl sign.
14	02/15/2014	475088	3827523	15	PF	13wX12hXunk	Small mammal burrow. No tortoise or owl sign.
15	02/15/2014	475089	3827515	16	PF	13wX18hXunk	Small mammal burrow. No tortoise or owl sign.
16	02/15/2014	475013	3827592	17	PF	18wX14hXunk	Canid complex. Deteriorated. No tortoise or owl sign.
17	02/15/2014	475023	3827566	18	PF	20wX26hX20l	Canid dig. No tortoise or owl sign.

18	02/15/2014	475022	3827401	19	PF	27wX20hXunk	Inactive kit fox burrow. No tortoise or owl sign.
19	02/15/2014	474983	3827589	20	PF	13wX7hXunk	Small mammal burrow. No tortoise or owl sign.
20	02/15/2014	474976	3827431	21	PF	30wX20hX30l	Small mammal pallet. No tortoise or owl sign.
21	02/15/2014	474991	3827412	22	PF	24wX24hX20l	Small mammal pallet. No tortoise or owl sign.
22	02/15/2014	474966	3827339	23	PF	28wX28hX35l	Coyote burrow. No tortoise or owl sign.
23	02/15/2014	474963	3827738	24-25	PF	30wX30hXunk	**Two canid burrows. Owl sign-whitewash and pellets (tan, not fresh).**
24	02/15/2014	474968	3827754	26-29	PF	30wX30hXunk	**Canid burrow. Owl sign-whitewash and pellets (mostly tan, 1 brown).**
25	02/15/2014	474965	3827768	30-31	PF	20wX20hXunk	**Small mammal burrow. Owl sign-small amount of whitewash.**
26	02/15/2014	474958	3827789	32	PF	25wX20hXunk	Small mammal burrow. Deteriorated. No tortoise or owl sign.
27	02/15/2014	474967	3827926	33	PF	35wX20hXunk	**Inactive kit fox complex-2 burrows. Whitewash and fresh pellets. One individual owl observed flying from burrow.**
28	02/15/2014	474926	3827920	34	PF	20wX18hXunk	Small mammal burrow. No tortoise or owl sign.
29	02/15/2014	474966	3828007	35	PF	20wX15hXunk	Small mammal burrow. No tortoise or owl sign.
30	02/15/2014	474701	3828133	36	OB	15wX20hXunk	Kit fox burrow. No tortoise or owl sign.
31	02/15/2014	474493	3828257	37	OB	19wX22hXunk	Kit fox burrow. No tortoise or owl sign.

[1]Record numbers are cross-referenced on Figure B

Table 3: Follow-Up Burrowing Owl Survey Results (April-June, 2014)

Record Number[1]	Date	Easting (NAD 83)	Northing (NAD 83)	Photo Number	Project Footprint (PF), Zone-of-Influence (ZOI), Owl Buffer (OB)	Dimensions (Width X Height X Length)	Description
24	04/15/2014	474966	3827926	26-29	PF	30wX30hXunk	Active BUOW burrow. >6 pellets. >25 whitewash.
25	04/15/2014	474960	3827738	30-31	PF	20wX20hXunk	Active BUOW burrow. >10 pellets. >60 whitewash. 1 owl feather. One adult male owl sighted.
27	04/15/2014	474968	3827753	33	PF	35wX20hXunk	Active BUOW burrow. >20 pellets. >80 whitewash
24	05/09/2014	474966	3827926	26-29	PF	30wX30hXunk	Active BUOW burrow. >8 pellets. >30 whitewash. 1 owl feather.
25	05/09/2014	474960	3827738	30-31	PF	20wX20hXunk	Active BUOW burrow. >10 pellets. >60 whitewash. 1 owl feather. One adult male owl sighted.
27	05/09/2014	474968	3827753	33	PF	35wX20hXunk	Active BUOW burrow. >20 pellets. >80 whitewash
24	06/19/2014	474966	3827926	26-29	PF	30wX30hXunk	Active BUOW burrow. >8 pellets. >30 whitewash.
25	06/19/2014	474960	3827738	**Figure J**	PF	20wX20hXunk	**Two adult owls at burrow and One Juvenile Owl. Desert Kit Fox Observed at this location.**
27	06/19/2014	474968	3827753	33	PF	35wX20hXunk	Active BUOW burrow. >20 pellets. >80 whitewash

[1]Record numbers are cross-referenced on Figure B

Discussion of Field Survey Results:

Desert Tortoise

The surveys were negative for live tortoises or tortoise sign within the project site, zone-of-influence, gen-tie, or any associated buffers. Due to the negative findings, it is not anticipated that any tortoises will be impacted by the development of the solar project within phase 3 of the VSL. Additionally, assuming the tortoise-proof fencing remains intact and maintained, desert tortoise should not immigrate onto the site. However, due to the fact that tortoises have been documented within the site, in the past, and along the outside of the perimeter, there are several mitigation measures, discussed below, that are recommended to prevent unauthorized take and minimize impacts, in the event a tortoise appears on the site, during the project development. Regardless of the findings of this report, the desert tortoise is protected under federal and state law and the survey report and mitigation measures do not constitute authorization for incidental take of the desert tortoise. The results of the tortoise survey are good for up to one year.

Burrowing Owl

Due to the mitigation measures of the Victorville Landfill EIR (BIO-5) and agency consultation, burrowing owl protocol surveys were initiated. Per the CDFW BUOW protocol, it is recommended to follow up further with breeding owl surveys during the spring to determine breeding status when suitable owl habitat is present. The survey methodology followed the California Department of Fish and Wildlife Staff Report (CDFW, 2012). The results of breeding owl surveys indicate, the site is occupied by burrowing owls (Figure J). The findings indicate that three active burrows are being utilized by one territory of burrowing owls. There are approximately three owls; two adults and one juvenile. All three burrows are located along the eastern edge of the phase 3 landfill, within 3-4 feet of the perimeter fence. Owl whitewash was also detected on the fence, indicating that the fence is being used a vantage point (perch site) for the owls. Based on the three active owl burrows and the high level of disturbance already in existence at the landfill, a 200 meter buffer around each burrow was inserted around the territory, this effective owl territory encompasses approximately 42 acres. The owls were not using any other burrows and no owl burrows were detected in the buffer zone surveys. Based on 57 acres of disturbance within the project footprint the mitigation ratio would be 0.7:1.

Table 4: Typical Burrowing owl setbacks:

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m). Source: CDFW, 2012.

Mammals

No threatened or endangered mammal species were detected during the survey effort. Two kit fox burrows were documented off site and three kit fox burrows were on site. The desert kit fox is not listed as a threatened or endangered species. One desert kit fox was observed on site, near the owl burrows. Waypoint #1 is a kit fox burrow and it appeared to be active during the initial visit (Figure B & J). Due to its limited protection, there are basic mitigation measures listed below to minimize the impacts to this species during the construction phase. CDFW requires that no active kit fox den be disturbed when pups are present and a 250 foot buffer should be implemented during the breeding season. During the non-breeding season the burrows may be hand excavated to ensure no kit foxes are trapped inside, assuming the burrow is inactive. All mammal species detected are included on Table 5.

Other Sensitive Vertebrates

Loggerhead Shrikes (*Larius ludovicianus*), a species of special concern during the nesting period, were observed during the survey. In order to comply with the Migratory Bird Treaty Act (MBTA) preconstruction nesting bird surveys are required prior to ground disturbance in order to locate nests and apply appropriate avoidance buffers during nesting season (February 1 to August 31). Besides the Loggerhead Shrikes, no other sensitive mammal, bird or reptiles were observed during the survey efforts. The site appears to be suitable Mohave ground squirrel (MGS; *Xerospermophilus mohavensis*) habitat. MGS are a state threatened species. This species was partially addressed during the original environmental review process. A 2081 incidental take permit and/or presence/absence survey are still required per BIO-2 of the VSL EIR. In order to address this species, the project proponent has elected to survey for the MGS. The survey is being completed during the 2014 season and is addressed in a separate report.

Lake Effect Discussion

Renewable energy projects have received recent attention in regards to impacts associated with avian collisions. The concern is that solar thermal projects and photovoltaic projects may disorient birds that are flying through the area, especially at night. The lake effect is a term that is used describe the phenomenon that the birds interpret a solar array to be a body of water and attempt to land on the surface. The birds either impact with the panels or land and cannot take off, in the case of water birds. The phenomenon of lake effect is not new and there are studies of avian species mortality documented as early as 1986 at the Solar One facility near Daggett, CA. (McCrary, M. D et al, 1986). The Solar One site uses reflective technology that focuses the sun's energy, via mirrors, onto an elevated boiler situated in the center of the mirrors. The results of the study indicated 70 birds (26 species) were killed. 81% of the birds died of collisions with the panels. 19% died from burns. The total impact on the local bird population was considered minimal (0.6-0.7% per week).

Another study was conducted by Western Ecosystems Technology, Inc. on the Kingbird Photovoltaic Solar Project (Erikson, et. al., 2013). This study recognizes the impact of photovoltaic (PV) projects but when PV is compared to other impacts (avian fatalities/year) such as cats (1.4-3.7 billion), buildings & windows (98 – 980 million), power lines (10,000 to 174 million), vehicles (60 to 80 million), communication towers (6.8 million), wind turbines (209,059 to 330,010) it is apparent that avian deaths from PV is not biologically significant.

Finally the United States Fish and Wildlife Forensics Laboratory has recently published preliminary results report on avian mortalities associated with three new large solar projects; Ivanpah Solar (ISEGS), Desert Sunlight (DS) and Genesis (Kagan, R.A. et al, 2014). The three projects use different technologies: ISEGS – reflective solar, similar to the Solar One project, DS-photovoltaic, and Genesis-reflective solar trough. The total number of mortalities for each site was ISEGS (141), Genesis (31) and DS (61). Unfortunately the avian mortalities at all three sites have not been collected in a systematic manner, most of the detections were incidental and the report has not been peer-reviewed so it is difficult to make conclusions on the rate of mortalities and whether it is biologically significant when compared to other forms of avian mortalities and solar projects of much smaller size. It is clear that solar flux mortality at ISEGS is a separate event isolated to reflective technology. Additionally, the DS photovoltaic site has ponds nearby that are an attractant to water birds. The preliminary analysis indicates that not all types of solar projects have the same level of impact.

The Victorville Solar project will utilize photovoltaic panels which does not eliminate the reflective component that is characteristic of reflective technology but it would reduce the impact and eliminate the potential for birds to receive burns. Additionally, the site will consist of a 10 MW AC photovoltaic array of approximately 57 acres. Due to the relatively small size of the

site the anticipated avian mortality is not expected to be biologically significant compared to other forms of development or more harmful renewable energy types, such as solar thermal technology. The solar project site's topography would provide offsets to eliminate a contiguous "lake effect" and solar panels would maintain 28 cm or more between panels to offset minimize a continuous band, minimizing lake effect. This has been shown to significantly reduce passerine strikes on windows on commercial buildings (Kagan, R.A. et al, 2014).

Mitigation Measure (MM) Recommendations:

The findings were negative for desert tortoise within the project site and gen-tie route. However tortoises are known to occupy the surrounding habitat. Desert tortoise scat was observed along the southwestern perimeter of the fence during the site reconnaissance by Phoenix biologists' and by the County biologist, Milo Rivera. Additionally, Rebecca Jones (CDFW) has observed tortoise activity to the northwest of the project site (Pers. Comm., 2014).

Burrowing owl survey results were positive, one owl territory is located along the eastern perimeter of the phase 3 boundary. Additionally, a desert kit was observed and fox burrows are present on and off site. In order to address the potential for desert tortoise, burrowing owl and desert kit foxes there are mitigation measure listed below. These mitigation measure are recommended to serve several purposes, (1) prevent the likelihood of desert tortoise or burrowing owls entering the site during the construction phase and (2) minimize the potential for take (3) minimize impacts to level less than significant (4) remain consistent with mitigation measures in the EIR. In the event a tortoise or burrowing owl is detected during the monitoring efforts, the project proponent will need to stop work, consult with the lead agency and initiate consultation with the resource agencies.

- **MM-01: Worker Awareness Education (WEAP Training).** Construction workers should be provided with an information pamphlet on general tortoise and burrowing owl biology, how to recognize and avoid desert tortoises and burrowing owls, authorized speed limits while working within the project site, trash abatement and checking under parked vehicles and equipment prior to moving.
- **MM-02: Submit a California Natural Diversity Database (CNDDB) Form:** A CNDDB form should be submitted for any tortoises, carcasses, active burrowing owl burrows and any other sensitive species encountered in order to provide the resource agency personnel & biological consultants with a better understanding of tortoise and owl distribution in this area.
- **MM-03: Provide a Trash Abatement Program** with sealed trash containers on site to prevent unwanted tortoise predators such as ravens and coyotes.
- **MM-04: Construction Monitoring.** Provide biological construction monitoring during clearing, grubbing, grading and until all heavy equipment operations are complete. In the event a tortoise is detected on the project site, during construction operations, the project proponent will halt construction efforts and will notify the lead agency within a 24 hour period. Consultation with the resource agencies will be required.
- **MM-05: Vehicle Speeds.** Vehicular speed limits of 15 miles per hour on all project related dirt access roads and work areas.

- **MM-06: Avoid Off-Road Travel.** Utilize existing roads, whenever possible, to minimize disturbance to potential DT habitat.
- **MM-07: Clearance Survey.** To comply with BIO-3 of the VSL EIR, clearance surveys should be conducted within the project site, the gen-tie corridor and new access roads that will be used during the construction phase to identify areas of potential avoidance or areas where realignment of proposed access roads is preferred to minimize impacts. The clearance survey consists of two passes; one pass is on a north-south axis at 5 meter intervals and the second pass is on a west-east axis at 5 meter intervals. If both passes are negative no further surveys are needed. A brief report of the results will be generated and submitted to the resource agencies.
- **MM-08: Take Avoidance Burrowing Owl Surveys.** The Permittee shall conduct a Burrowing Owl preconstruction take avoidance survey prior to ground disturbance. The survey shall be conducted within fourteen (14) days of ground disturbance and it will be conducted by a biologist knowledgeable of Burrowing Owl habitat, ecology, and field identification of the species and burrowing owl sign and in accordance with the attached Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012). The survey shall consist of walking 20 meter belt transects throughout the entire Project site and adjoining areas within 150 meters, including areas that may be indirectly impacted by the Project, to identify the presence of Burrowing Owl habitat. A report summarizing the results of the survey shall be submitted to CDFW within 30 days following the completion of the survey and shall include all information as outlined in Appendix C of the Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012). The previous field surveys have detected burrowing owls onsite. If surveys confirm additional owls onsite the CDFW will be notified to discuss recommended options to assist in the development of avoidance, minimization, and mitigation measures, prior to commencing Project activities.
- **MM-09: Burrowing Owl Relocation and Monitoring Plan:** Due to the presence of owls onsite the project proponent will need to complete a burrowing owl relocation and monitoring plan to address the relocation and enhancement of burrowing owl habitat on the offsite mitigation lands. The project proponent has elected for offsite mitigation to reduce the impacts to burrowing owls. The total area of mitigation land will require 42 acres of land based on a 200 meter buffer around the active owl burrows onsite. The mitigation lands will be included in the acquisitions lands needed to fulfill the streambed alteration agreement amendment and ACOE 404 permit requirements.
- **MM-10: Nesting Bird Survey:** To comply with the Migratory Bird Treaty Act (MBTA), if any ground disturbance is anticipated during the nesting bird season (February 1st through August 31st) the project proponent will initiate a breeding/nesting bird survey to ensure

no nesting birds are impacted. If a nesting bird is detected, the area will be avoided and a 100 foot for passerines and a 300 foot buffer for raptors will be installed until the nesting birds have fledged and have been observed to be foraging independently.

- **MM-11: Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds and lake effect. the Applicant will perform construction-phase and operations-phase avian mortality monitoring at the project site. Prior to issuance of a grading permit for the project, the Applicant will submit an Avian Protection Plan to the County of San Bernardino and the U.S. Fish & Wildlife Service (USFWS) ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan will include the following elements:

  1. Bird Encounter Protocol during Construction

  This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

  - The species, life stage (adult or juvenile), and sex (if practical) of the bird
  - The likely cause of injury or death, if apparent; and,
  - The approximate date of death, for individuals that have been dead for a period prior to discovery.

  2. Construction-Phase Reporting Requirements

  This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan will require that the USFWS be notified immediately. Additionally, the applicant will not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or California Department of Fish & Wildlife (CDFW).

  3. Operations-Phase Mortality Monitoring

  This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the site, and will detail the methods by which this monitoring should be conducted. The plan will require monitoring for a minimum period of two years following completion of construction. A

minimum of five monitoring events must be conducted during each year, and will be scheduled to coincide with peak migration periods. At least one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds. If no substantial project-related injury or mortality of birds is occurring after two years, no further avian mortality monitoring shall be necessary.

4. Adaptive Management

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan will direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

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This concludes the desert tortoise presence/absence and burrowing owl initial habitat/burrow census survey report for the 90 acre survey (Victorville Solar; APN #472-011-34) within San Bernardino County, California.

Certification: *I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. The survey results are good for one year. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take for any sensitive species.*

Field work conducted by:

Date: February 16, 2014 Signature: _____
Mikaila Nigrete, Associate Biologist

Date: February 16, 2014 Signature: _____
Cathy Halley, Associate Biologist

Date: February 16, 2014 Signature: _____
Ryan Mann, Associate Biologist

Date: August 14, 2014 Signature: _____
Ryan Young, Senior Biologist & Principal

Report Prepared by:

Date: February 16, 2014 Signature: _____
Ryan Mann, Associate Biologist

Date: August 14, 2014 Signature: _____
Ryan Young, Senior Biologist & Principal

Figure A: Regional Setting Victorville Solar

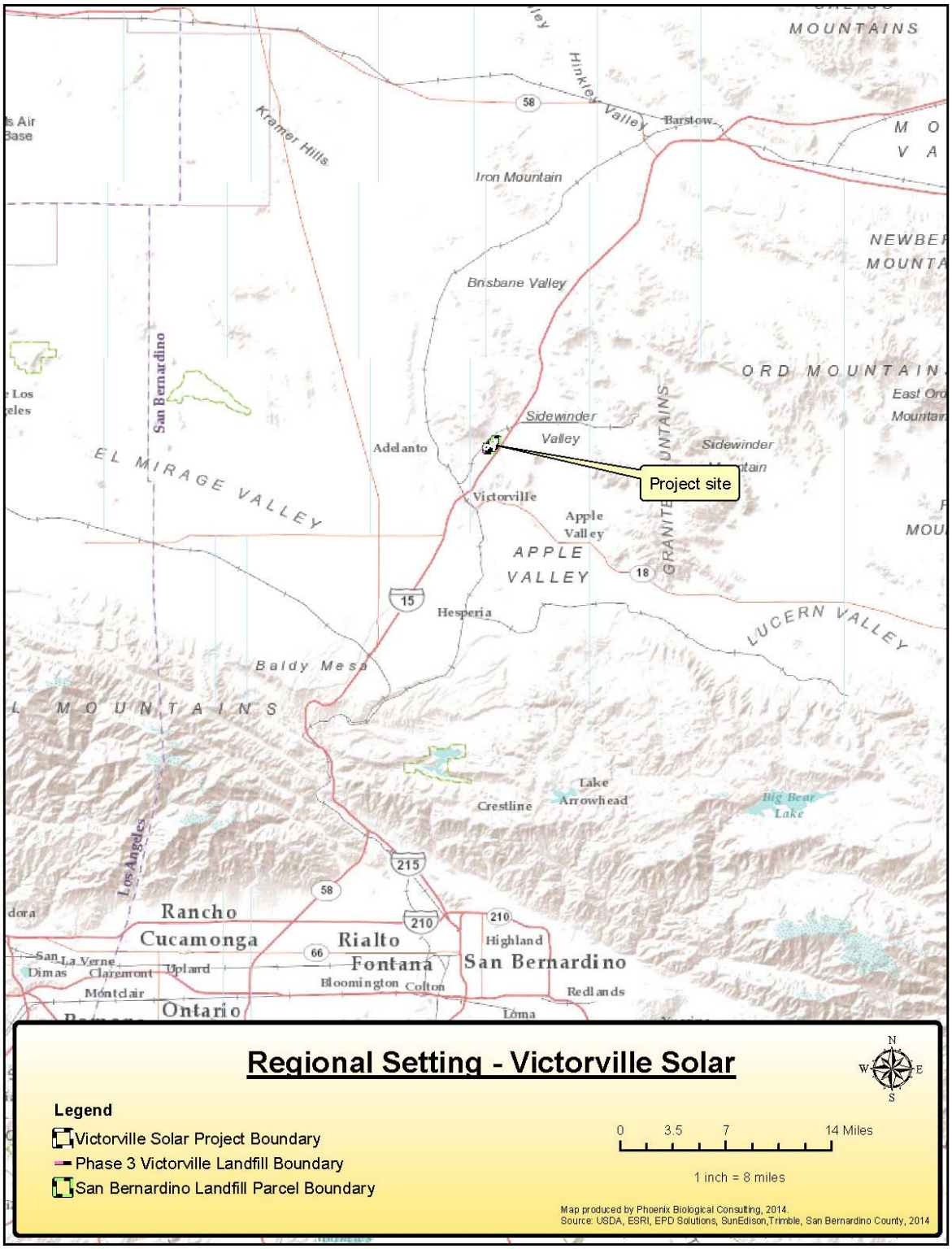


Figure B: Biological Resource Map (Aerial View) for Victorville Solar

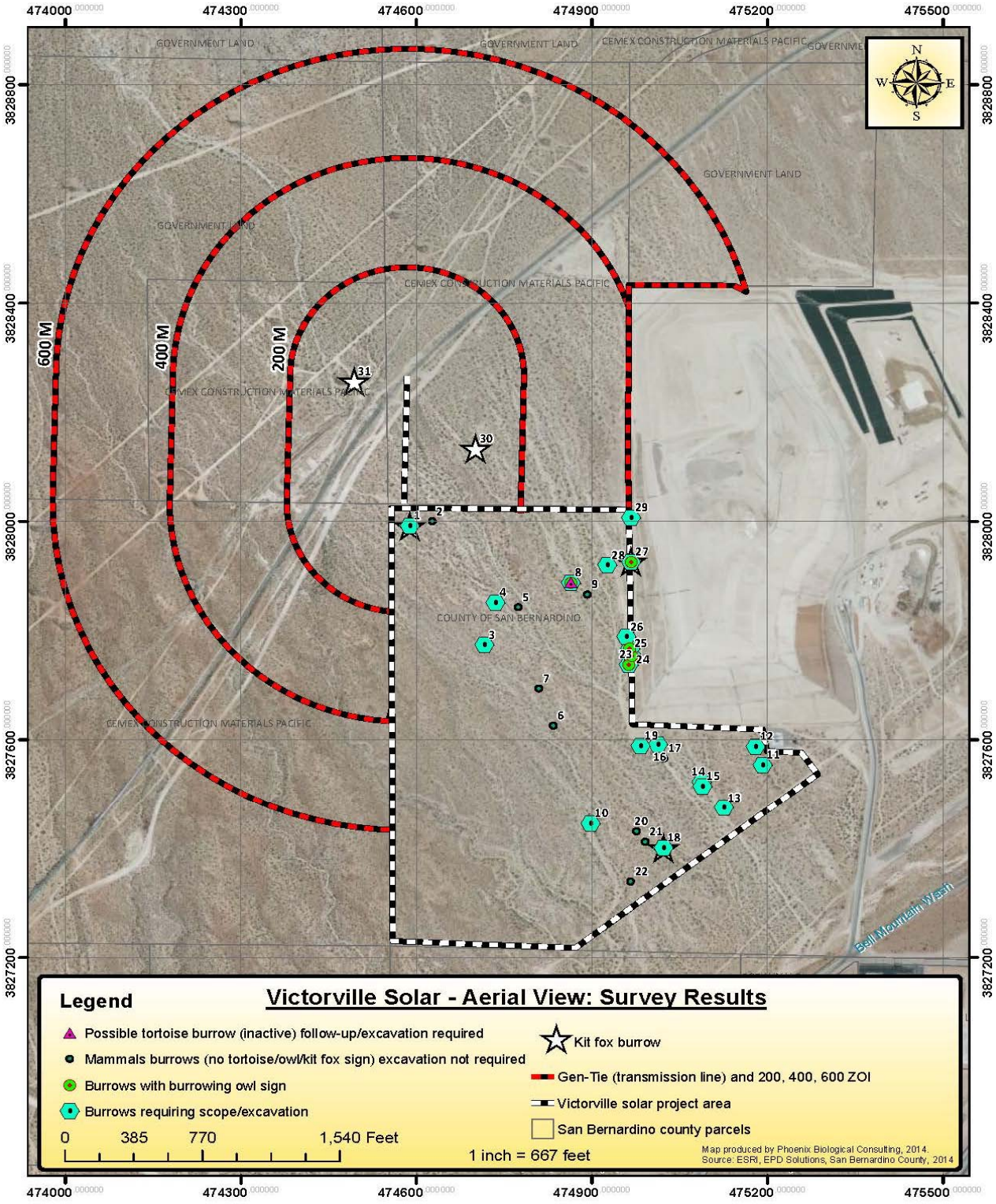


Figure C: Victorville Solar and Surrounding Area (Topographic View)

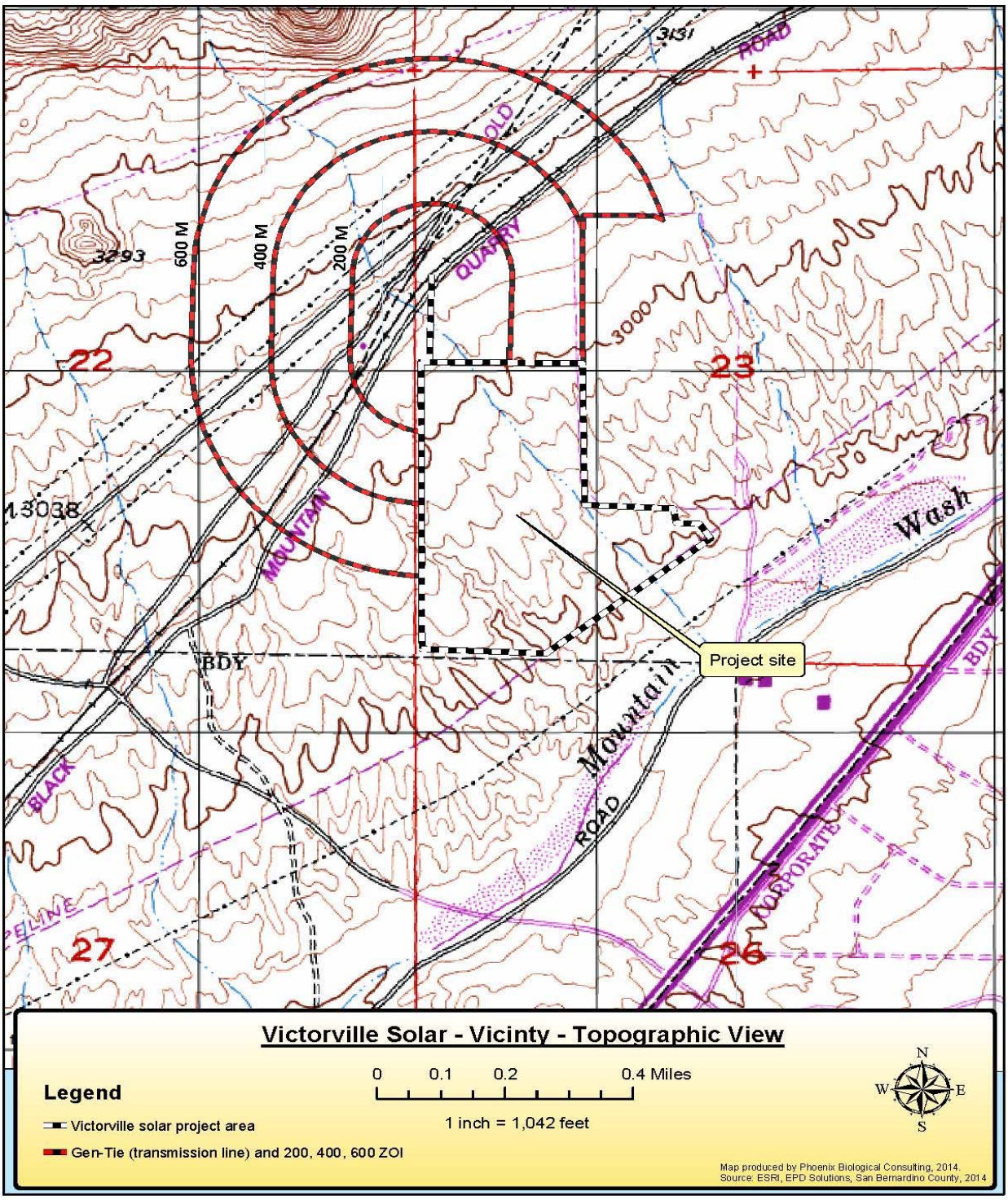


Figure D: Victorville Solar Track Log (Aerial View)

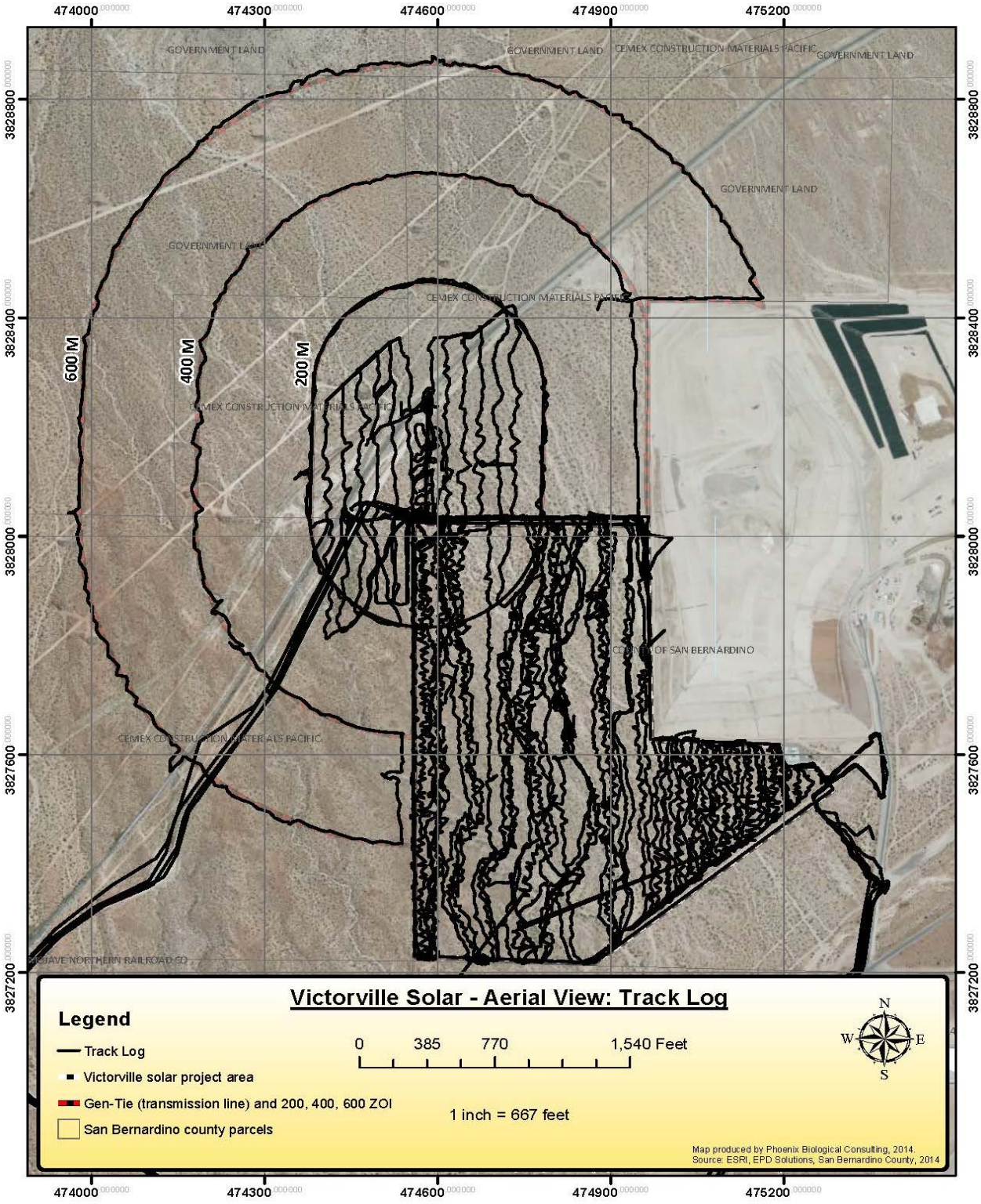


Figure E: Victorville Solar and Proximity to ACEC and Critical Desert Tortoise Habitat

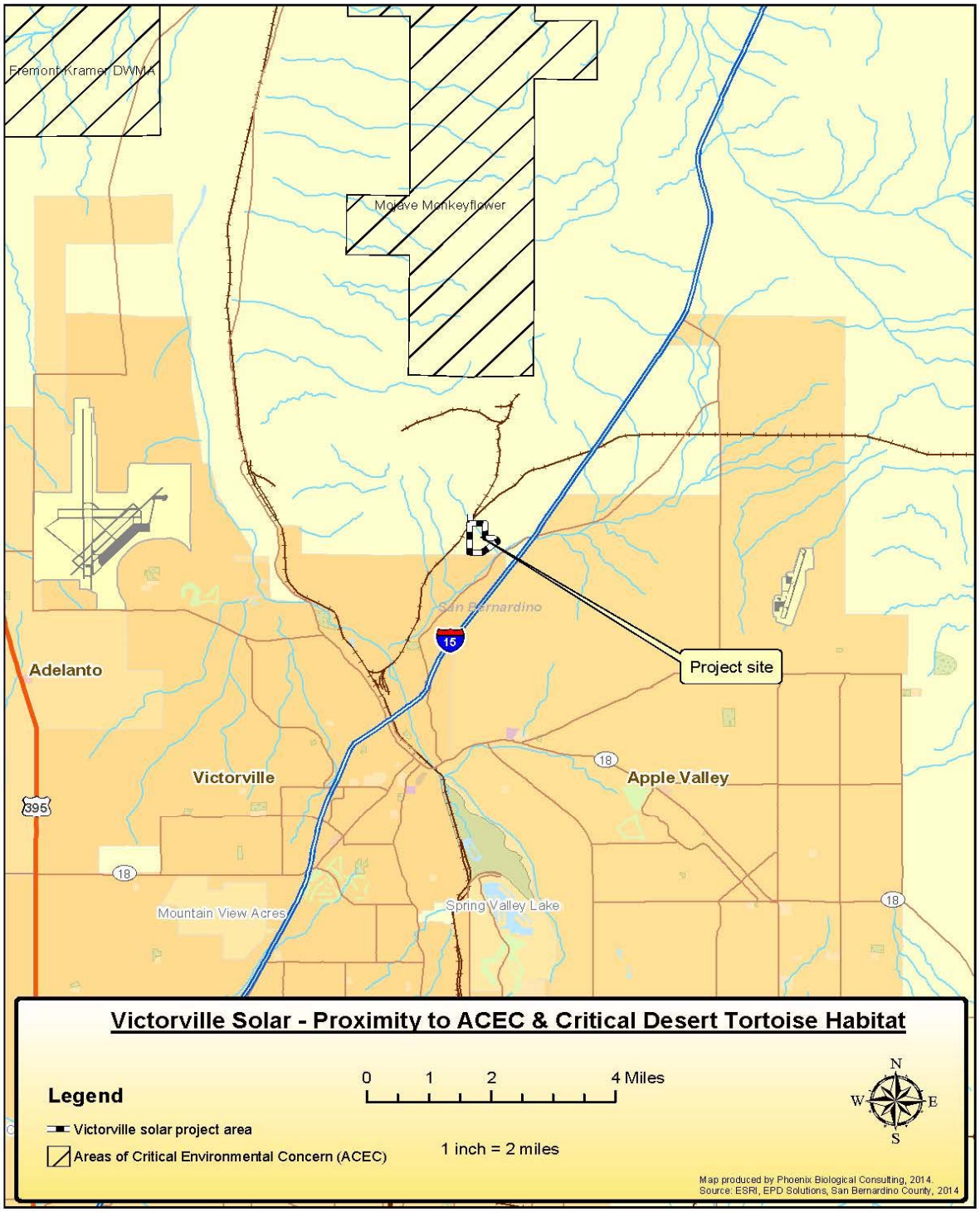


Figure F: Victorville Solar and Desert Tortoise Regional Density

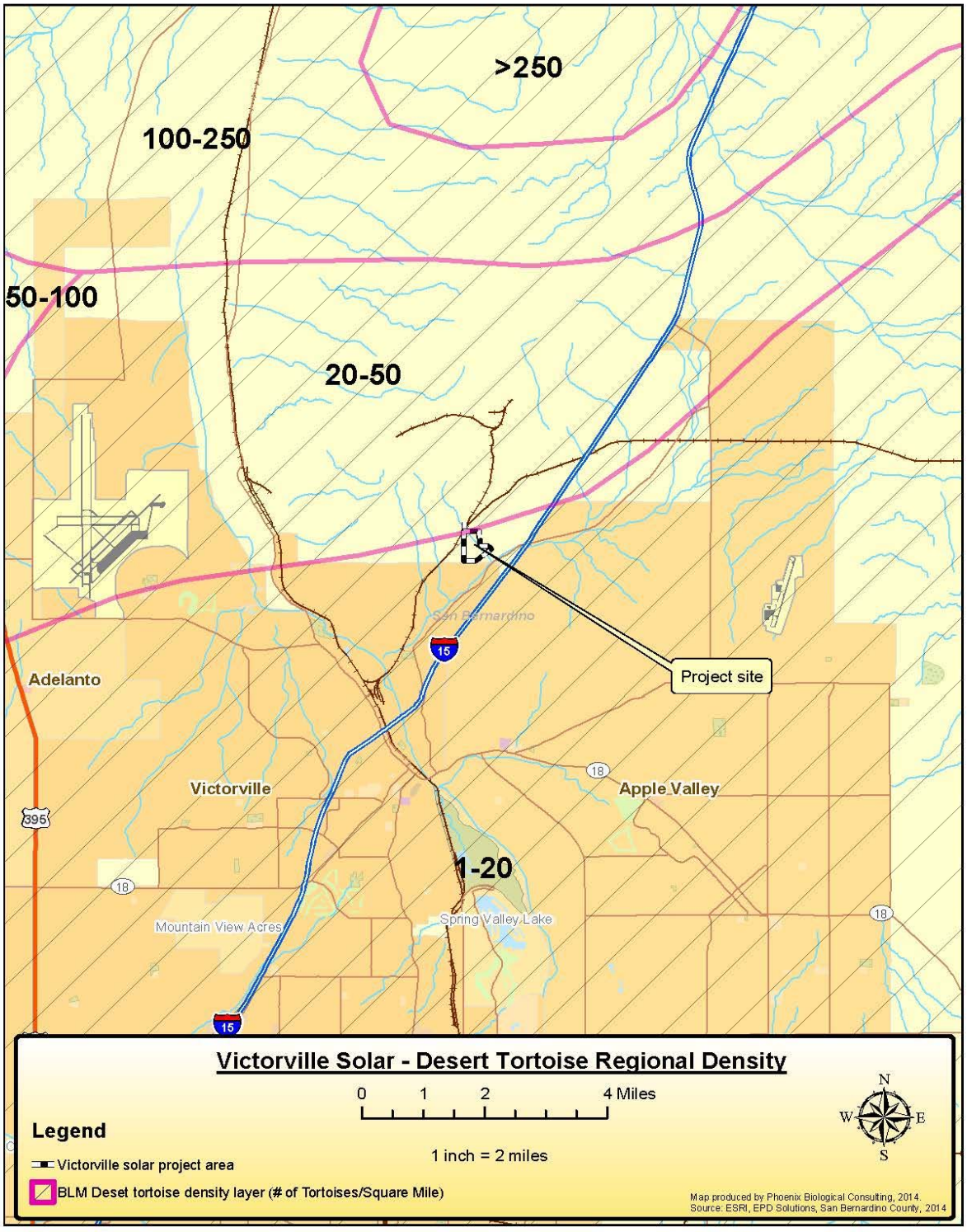


Figure G: Site Photos (Corners) for Victorville Landfill Solar

NW corner facing center

SW corner facing center

Figure H: Site Photos (Corners)

NE corner facing center

SE corner facing center

Figure I: Gen-Tie Site Photos

South end facing north

Burrowing owl buffer, south end facing north

Figure J: Burrowing Owl & Desert Kit Fox Detections

Wpt 25. Adult & Juvenile Burrowing Owls. Perimeter fence in background

Wpt 25. Desert Kit Fox

Figure K: Burrows for Victorville Solar

Figure L: Burrows and Burrowing Owl Sign for Victorville Solar

Figure M: Burrows for Victorville Landfill Solar

Figure N: Burrows and Burrowing Owl Sign for Victorville Landfill Solar

Figure O: 200 Meter Burrowing Owl Buffer Area

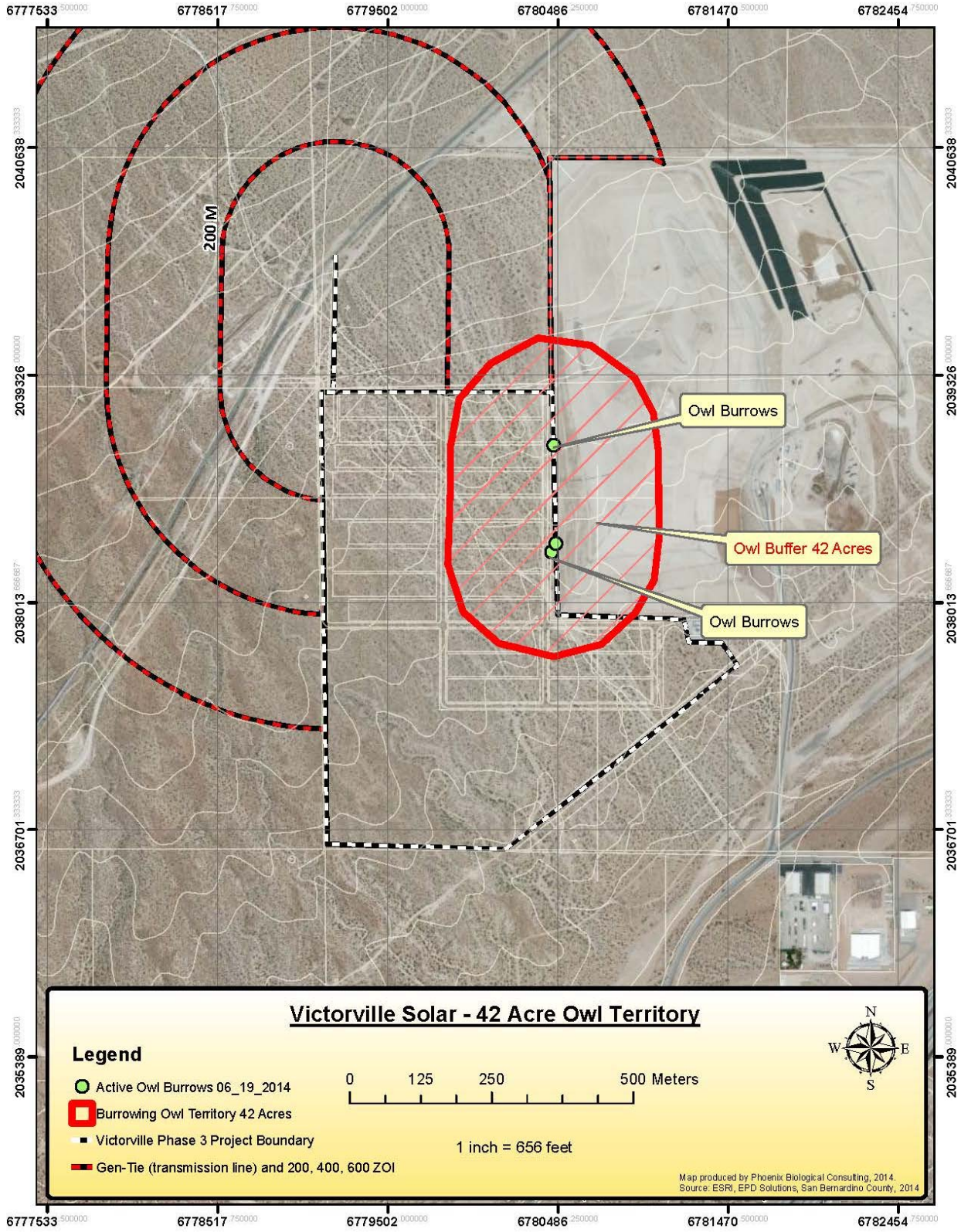


Table 5: Vertebrates Detected During the Survey for Victorville Solar

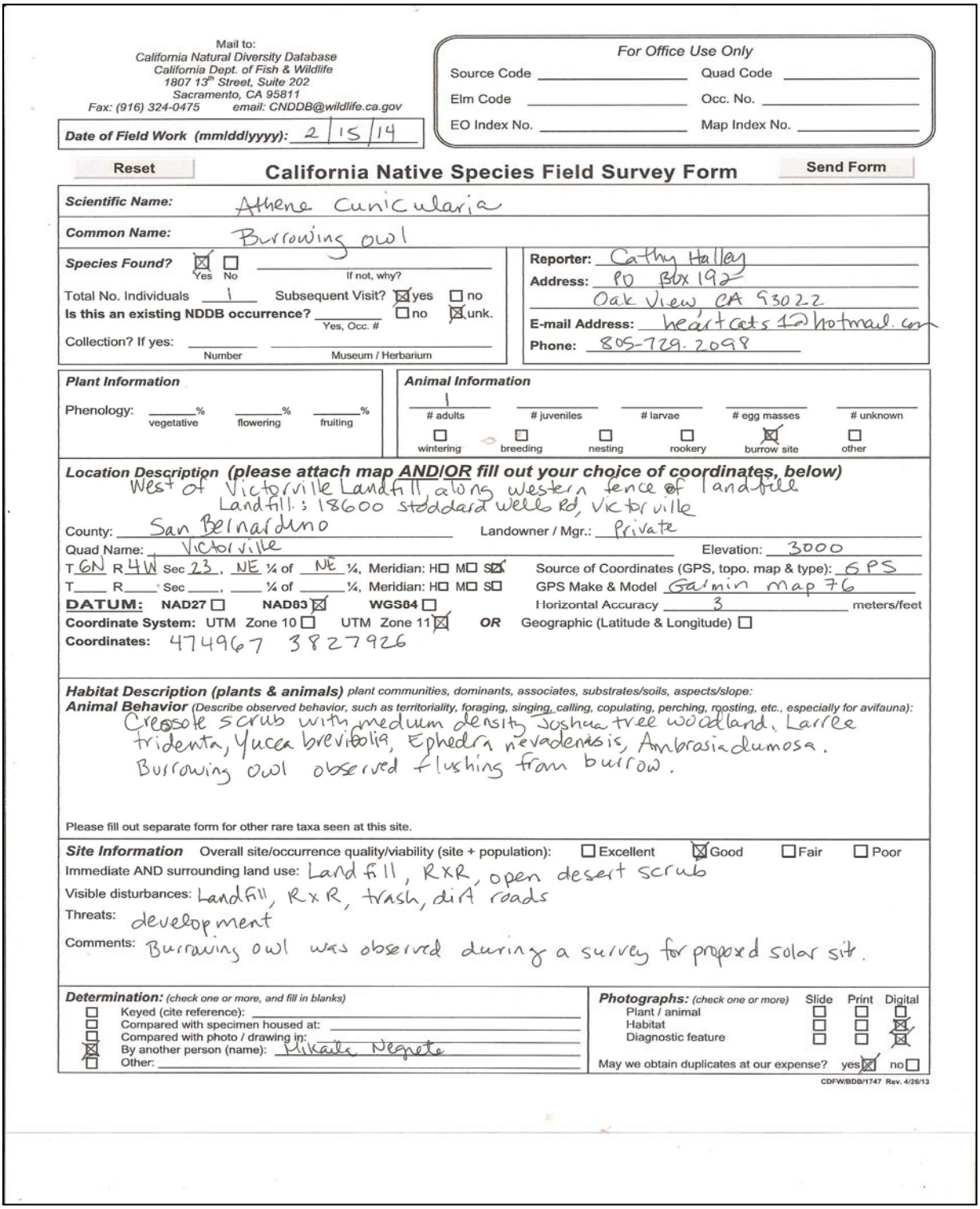
Mammals
Antelope ground squirrel (*Ammospermophilus leucurus*)
Black tailed jack rabbit (*Lepus californicus*)
Coyote (*Canis latrans*)-scat and burrows only
Desert kit fox (*Vulpes macrotis*) – scat, burrows and one fox on trail camera
Birds
Black-throated sparrow (*Amphispiza bilineata*)
Burrowing Owl (*Athene cunicularia*)-one territory on site
Common raven (*Corvus corax*)
Horned lark (*Eremophila alpestris*)
Loggerhead shrike (Lanius ludovicianus)
Northern mockingbird (*Mimus polyglottos*)
Red tailed hawk (Buteo jamacensis)
Ring-billed Gull (*Larus delawarensis*)
Tree swallow (*Tachycineta bicolor*)
Turkey vulture (*Cathartes aura*)
White crowned sparrow (*Zonotrichia leucophrys*)
Reptiles
Side-blotched lizard (*Uta stansburiana*)

Table 6: Vascular Plants Detected During Site Visit

FAMILY Species	Common Name	Habit
ASTERACEAE		
Ambrosia dumosa	Burrobush	shrub
Encelia sp.	Brittlebush	shrub
Hymenoclea salsola	Cheesebush	shrub
Tetradymia sp.	Horsebrush	shrub
BORAGINACEAE		
Amsinckia tessellata	Devil's lettuce	annual
CACTACEAE		
Echinocactus polycephalus	Cottontop	perennial
Opuntia basilaris	Beavertail cactus	perennial
Cylindropuntia echinocarpa	Silver cholla	perennial
CHENOPODIACEAE		
Atriplex canescens	Four winged salt bush	shrub
Krascheninnikovia lanata	Winter fat	shrub
Grayia spinosa	Hop-sage	shrub
EPHEDRACEAE		
Ephedra nevadensis	Mormon tea	shrub
FABACEAE		
Psorothamnus arborescens	Mojave indigo bush	Shrub
LILIACEAE		
Yucca schidigera	Mohave yucca	Perennial
Yucca brevifolia	Joshua Tree	perennial
POLYGONACEAE		
Eriogonum inflatum	Desert trumpet	perennial
Eriogonum fasciculatum	California buckwheat	perennial
Eriogonum deflexum	Skeleton weed	annual
RUTACEAE		
Thamnosma montana	Turpentine broom	shrub

SOLANACEAE		
Lycium cooperi	Peach thorn	Shrub
Lycium andersonii	Anderson thornbush	shrub
ZYGOPHYLLACEAE		
Larrea tridentate	Creosote	shrub

Appendix A: CNDDB Form



Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 2/15/14

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Athene Cunicularia

Common Name: Burrowing owl

Species Found? ☒ Yes ☐ No _____ If not, why?

Total No. Individuals 1 Subsequent Visit? ☒ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☒ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Cathy Halley
Address: PO Box 192
Oak View CA 93022
E-mail Address: heartcats1@hotmail.com
Phone: 805-729-2098

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☒ burrow site ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

West of Victorville Landfill along western fence of landfill. Landfill: 18600 Stoddard Wells Rd, Victorville

County: San Bernardino Landowner / Mgr.: Private

Quad Name: Victorville Elevation: 3000

T 6N R 4W Sec 23, NE ¼ of NE ¼, Meridian: H☐ M☐ S☒ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin map 76

DATUM: NAD27 ☐ NAD83 ☒ WGS84 ☐ Horizontal Accuracy 3 meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☒ OR Geographic (Latitude & Longitude) ☐

Coordinates: 474967 3827926

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Creosote scrub with medium density Joshua tree woodland. Larrea tridenta, Yucca brevifolia, Ephedra nevadensis, Ambrasia dumosa. Burrowing owl observed flushing from burrow.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: Landfill, RXR, open desert scrub

Visible disturbances: Landfill, RxR, trash, dirt roads

Threats: development

Comments: Burrowing owl was observed during a survey for proposed solar site.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☒ By another person (name): Mikaila Negrete
☐ Other: _____

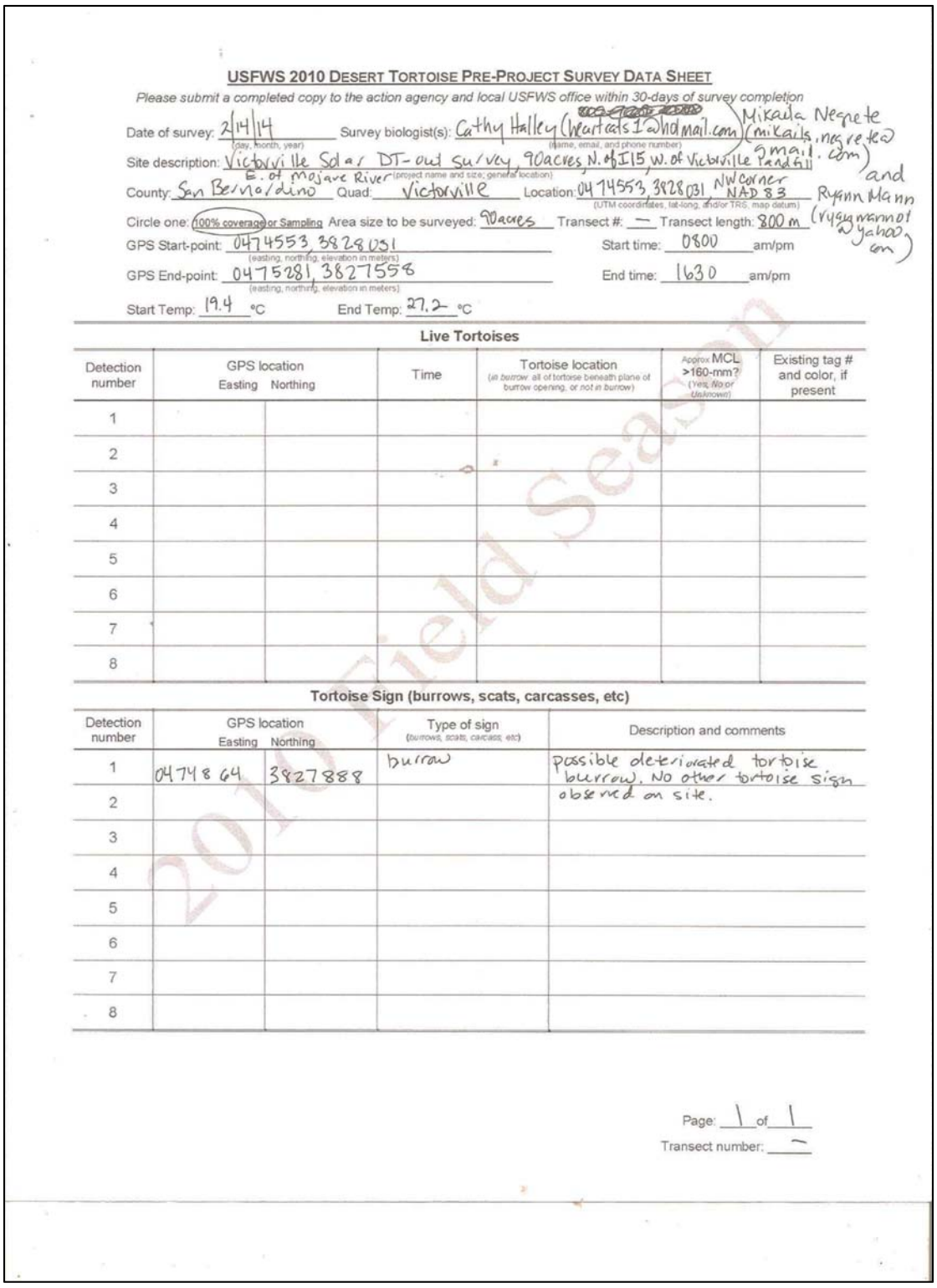
Photographs: *(check one or more)* Slide Print Digital

Plant / animal ☐ ☐ ☐
Habitat ☐ ☐ ☒
Diagnostic feature ☐ ☐ ☒

May we obtain duplicates at our expense? yes ☒ no ☐

CDFW/BDB/1747 Rev. 4/26/13

Appendix B: USFWS Desert Tortoise Survey Form



USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 2/14/14 (day, month, year) Survey biologist(s): Cathy Halley (wartcats1@hotmail.com) Mikaila Negrete (mikaila.negrete@gmail.com) and Ryann Mann (ryguymann@yahoo.com) (name, email, and phone number)

Site description: Victorville Solar DT-out survey, 90acres, N. of I15, W. of Victorville Landfill E. of Mojave River (project name and size; general location)

County: San Bernardino Quad: Victorville Location: 0474553, 3828031 NW corner NAD 83 (UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: 90acres Transect #: — Transect length: 800 m

GPS Start-point: 0474553, 3828031 (easting, northing, elevation in meters) Start time: 0800 am/pm

GPS End-point: 0475281, 3827558 (easting, northing, elevation in meters) End time: 1630 am/pm

Start Temp: 19.4 °C End Temp: 27.2 °C

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (Yes, No or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (burrows, scats, carcass, etc)	Description and comments
1	0474864	3827888	burrow	possible deteriorated tortoise burrow. No other tortoise sign observed on site.
2				
3				
4				
5				
6				
7				
8				

Page: 1 of 1

Transect number: —

2010 Field Season