

Appendix D.5

Desert Tortoise Survey Letter Report
For the
E-Group PS Solar Project
Twentynine Palms, San Bernardino County, California

Prepared for

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Prepared by

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May 29, 2025

May 29, 2025

14392

Robert M. Smith
Partner
K&L Gates LLP
925 Fourth Avenue, Suite 2900
Seattle, Washington 98104

Subject: 2025 Desert Tortoise Survey Letter Report for the E-Group PS Solar Project, Twentynine Palms, San Bernardino County, California

Dear Robert M. Smith:

This letter report documents the methods and results of the 2025 active season protocol survey for Mojave desert tortoise (*Gopherus agassizii*) for the E-Group PS Solar Project (project) site.

1 Introduction and Background

The approximate 184-acre project, located in the City of Twentynine Palms, San Bernardino County, California, is bound by undeveloped open desert habitat in all directions (Figure 1, Project Location). The project proposes to construct, operate and maintain a 50-megawatt photovoltaic solar facility. The project also includes approximately 3.3 acres of off-site areas that are associated with a proposed site driveway constructed off Two Mile Road and gen-tie alignment from the proposed solar facility to the existing Southern California Edison Carodean Substation, as well as 11.7 acres of road dedications for Amboy Road, Samarkand Drive, and Noels Knoll Road.

During focused Mojave desert tortoise survey efforts in December 2023 in support of the project, Mojave desert tortoise individuals and their sign (i.e., scat, active burrows, footprints, bone fragments, and one carcass) were observed within the project site. The Mojave desert tortoise is a federally and state-listed threatened species. The Federal Endangered Species Act (FESA), administered by the U.S. Fish and Wildlife Service (USFWS), allows for the issuance of Incidental Take Permits (ITPs) for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of Habitat Conservation Plans on private property without any other federal agency involvement. The California Endangered Species Act (CESA) (California Fish and Game Code Chapter 1.5), administered by the California Department of Fish and Wildlife (CDFW), allows for take authorization under Section 2081, which allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of mitigation implementation, and monitoring of mitigation measures.

The project applicant is pursuing an ITP from the USFWS under Section 10 of the FESA through the USFWS's General Conservation Plan (GCP) for the Desert Tortoise in California (GCP; USFWS 2025) once the GCP has been finalized, and from CDFW under Section 2081 of California Fish and Game Code (i.e., CESA). While a protocol Mojave desert tortoise survey was conducted in support of the project in December 2023, the feedback received from both USFWS

and CDFW was that an additional protocol Mojave desert tortoise survey should be conducted during the species’ active season (i.e., April/May or September/October) in 2025 to ensure that an accurate accounting of Mojave desert tortoise individuals is completed and considered during the ITP permitting process. As such, Dudek conducted a second protocol Mojave desert tortoise survey in May 2025 within the project boundary and permit area as shown on Figure 1 to support the ITP permitting process. The following provides the methodology and results of this survey.

2 Methods

Dudek conducted a protocol-level Mojave desert tortoise survey in May 2025. Table 1 lists the dates, conditions, and personnel for each survey day.

Table 1. Survey Conditions

Date	Biologist	Time	Weather Conditions
05/06/2025	Alex Chaney; Britney Schultz; Brody Olson; David Eubanks	6:15 a.m.–1:45 p.m.	56°F–72°F; 0%–60% cloud cover; 0–3 mph wind
05/07/2025	Alex Chaney; Brody Olson; Connor Kelleher; David Eubanks	6:15 a.m.–1:24 p.m.	68°F–91°F; 0% cloud cover; 0–5 mph wind
05/08/2025	Alex Chaney; Brody Olson; Connor Kelleher; David Eubanks	6:30 a.m.–12:40 p.m.	63°F–80°F; NR of cloud cover or wind
05/09/2025*	Alex Chaney	6:10 a.m.–1:15 p.m.	58°F–75°F; 0% cloud cover; 0–3 mph wind

Notes: °F = degrees Fahrenheit; mph = miles per hour; NR = no record.
* Survey conducted to check all previously mapped burrows from December 2023 focused surveys.

As with the protocol Mojave desert tortoise survey conducted in 2023, Dudek conducted this survey in accordance with the USFWS approved survey methodologies (2018) for small projects (i.e., projects less than 500 acres). Dudek qualified biologists conducted the survey using 10-meter (approximately 30-foot) wide belt transects. Qualified biologists walked pedestrian transects spaced 30 feet apart and recorded all observations of live desert tortoises as well as evidence indicative of desert tortoise (e.g., scat, burrows, carcasses, courtship rings, drinking depressions). To ensure there was no bias influencing the survey results, Dudek created a new map for the qualified biologists to record all evidence and observations of Mojave desert tortoise. During the May 9, 2025, survey, the biologist was provided with the previously mapped locations of individual tortoises, tortoise burrows, and tortoise sign from the December 2023 survey effort to ensure full coverage of these previously mapped areas.

3 Results

Dudek biologists observed a total of two Mojave desert tortoise individuals, one adult male and one adult female, during the May 2025 protocol survey effort. Figure 2, Vegetation Communities and May 2025 DETO Survey Results, depicts the locations of individuals observed during the May 2025 survey effort. Table 2 summarizes the live individuals observed during the 2025 protocol-level surveys.

The female tortoise was noted to have some distinctive carapace markings/damage to the right, rear marginal scutes of the carapace, as well as notable deep-set grooves between the carapace scutes, particularly along the vertebral and costal scutes. Biologists observed and photographed an open (recent) wound along the front of her leg (see Attachment A, Photo Log). The adult male was observed within the same vicinity (i.e., within 200 feet) of the location where the female tortoise was observed. The male's carapace was distinct from the female's, and the male's carapace did not have any obvious, distinctive markings or damage, and the scutes were smooth, without deep set grooves between them. Neither individual had any marginal scute notching, nor any sign that these individuals have been previously marked or documented. In addition to the two live Mojave desert tortoise individuals, biologists observed shell bone fragments and a plastron during the survey effort. The plastron was a subadult tortoise, and the shell bone fragments appeared to be from an adult. Attachment A includes photographs of the observed desert tortoises as well as the shell bone fragments and subadult plastron. Table 2 summarizes the live individuals observed during the 2025 protocol-level survey.

Table 2. Mojave Desert Tortoise Individuals Observed Within the Project Boundary

Date	Observation Notes	Live Individuals
Mojave Desert Tortoise Protocol Survey		
05/06/2025	No live tortoises were detected. Adult tortoise shell bone fragments and a subadult tortoise plastron were observed.	0
05/07/2025	One adult female was observed resting under a branched pencil cholla (<i>Cylindropuntia ramosissima</i>). One adult male was observed within a burrow located approximately within 200 feet of the location of the adult female.	2
05/08/2025	No live tortoises were detected.	0
05/09/2025	The adult female and adult male observed on 05/07/2025 were observed again during the recheck of the southwestern corner of the project boundary. The adult male was located at the same burrow as documented on 05/07/2025; however, this time he was photographed outside of the burrow. The adult female was observed resting under a branched pencil cholla approximately 93 feet southwest of the location observed on 05/07/2025.	0*
Total Live Tortoise Observations		2

Note:

* The adult female and adult male were the same individuals observed on May 7, 2025.

In addition, Dudek biologists documented a total of 16 suitable desert tortoise burrows and two tortoise pallets (i.e., shallow burrows/shelters likely used by a tortoise) within the project boundary. Each documented tortoise burrow was assigned a condition class, as described in the Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*) prepared by the USFWS (2009). These condition classes are presented below in Table 3. Of the 16 burrows observed, there were 1 Class 1 burrow, 2 Class 2 burrows, 6 Class 3 burrows, and 7 Class 4 burrows. Of the 16 burrows mapped by biologists, 6 burrows were noted to contain some type of desert tortoise sign (specifically scat or tracks). Figure 2

depicts the locations of all burrows and live desert tortoise observations documented during the May 2025 survey effort. Desert tortoise data sheets can be found in Attachment B, USFWS Desert Tortoise Survey Forms.¹

Table 3. Mojave Desert Tortoise Burrow Condition Class

Class	Description
1	Currently active, with a desert tortoise or recent desert tortoise sign
2	Good condition, definitely desert tortoise; no evidence of recent use
3	Deteriorated condition, which includes collapsed burrows; definitely desert tortoise (please describe)
4	Good condition; possibly desert tortoise (please describe)
5	Deteriorated condition, which includes collapsed burrows; possibly desert tortoise (please describe)

4 Conclusion

The survey resulted in the observation of two live adult desert tortoises (a male and a female), two desert tortoise carcass fragments (adult shell bone fragments and a subadult plastron), and a total of 16 suitable desert tortoise burrows consisting of 1 Class 1 burrow, 2 Class 2 burrows, 6 Class 3 burrows, and 7 Class 4 burrows. All tortoise observations and burrow locations are depicted on Figure 2. As described in the Biological Resources Technical Report for the E-Group PS Solar Project (Dudek 2025), three adult desert tortoises were observed during the December 2023 focused protocol-level survey, in addition to one subadult desert tortoise that was incidentally observed. The 2025 survey effort did not observe the third adult desert tortoise and only observed the adult male and female that likely are a breeding pair. As described above, the southwestern corner of the project boundary was rechecked on May 9, 2025, to recheck past mapped burrows from the December 2023 focused surveys and where the additional third adult desert tortoise was previously observed; however, this individual was not observed during the 2025 survey effort. In addition, the subadult plastron observed during the May 2025 focused survey effort was of the same size and nearby vicinity as the subadult observed incidentally in 2024 (i.e., along Samarkand Drive). This subadult appears to have been predated by a common raven (*Corvus corax*).

In total 17 wildlife species, including the Mojave desert tortoise, were documented during the survey efforts. All species observed were native species. A complete list of wildlife species observed during this survey effort is provided in Attachment C, Wildlife Compendium.

If there are any questions regarding the contents of this report, please contact me at 760.685.1231 or bschultz@dudek.com.

¹ Desert tortoise forms include only those burrows and live tortoises mapped during the 2025 protocol survey efforts; additional burrows and live tortoises incidentally mapped during the 2023 and 2024 are not included in the forms as they were not part of the May 2025 desert tortoise protocol-level surveys.

Sincerely,



Britney Schultz
Biologist

Att.: Figures 1–2
A: Photo Log
B: USFWS Desert Tortoise Survey Forms
C: Wildlife Compendium
cc: Joshua Saunders, Dudek

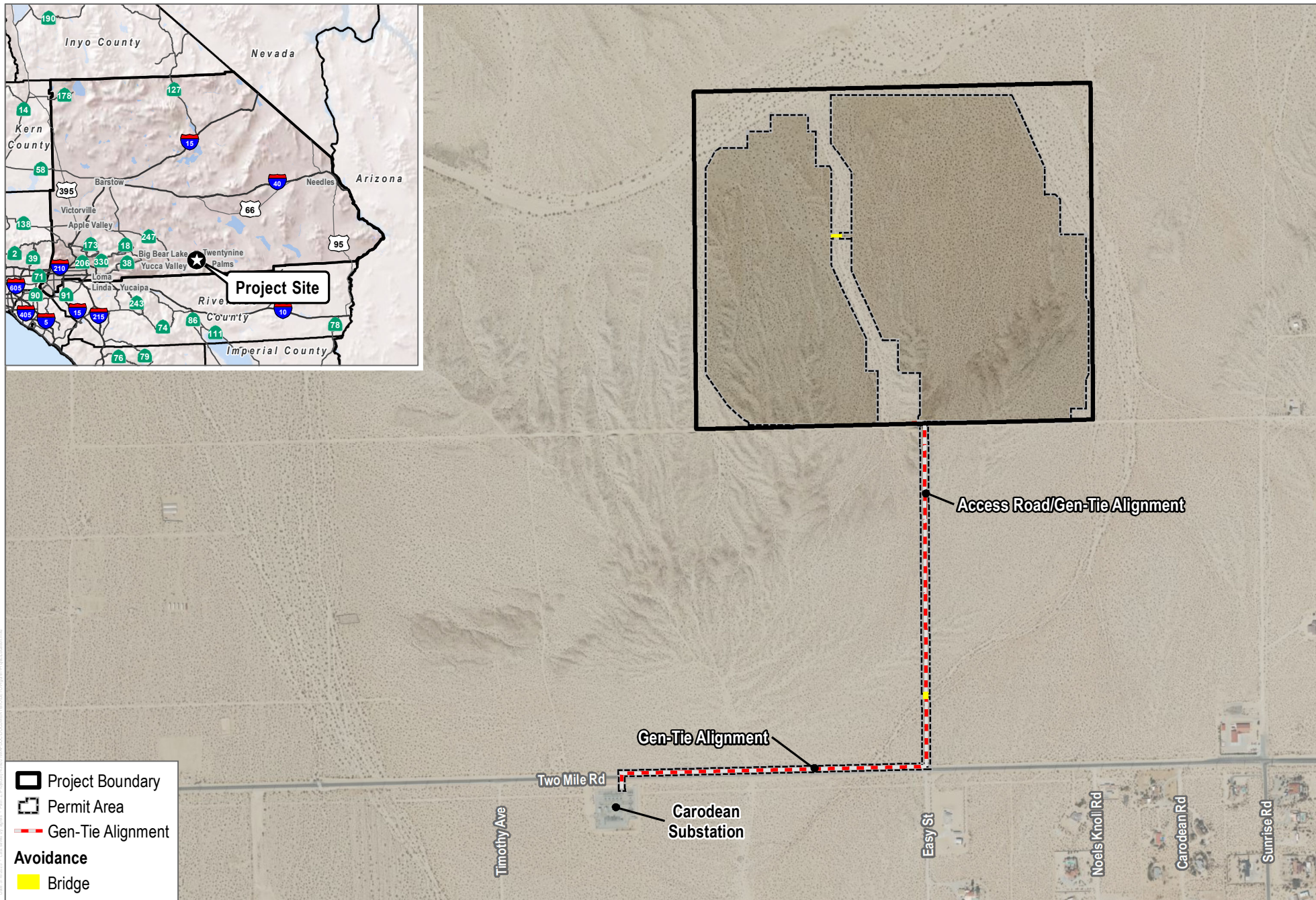
5 References

Dudek. 2025. *Biological Resource Technical Report for the E-Group PS Solar Project*. Prepared for K&L Gates LLP. April 2025.

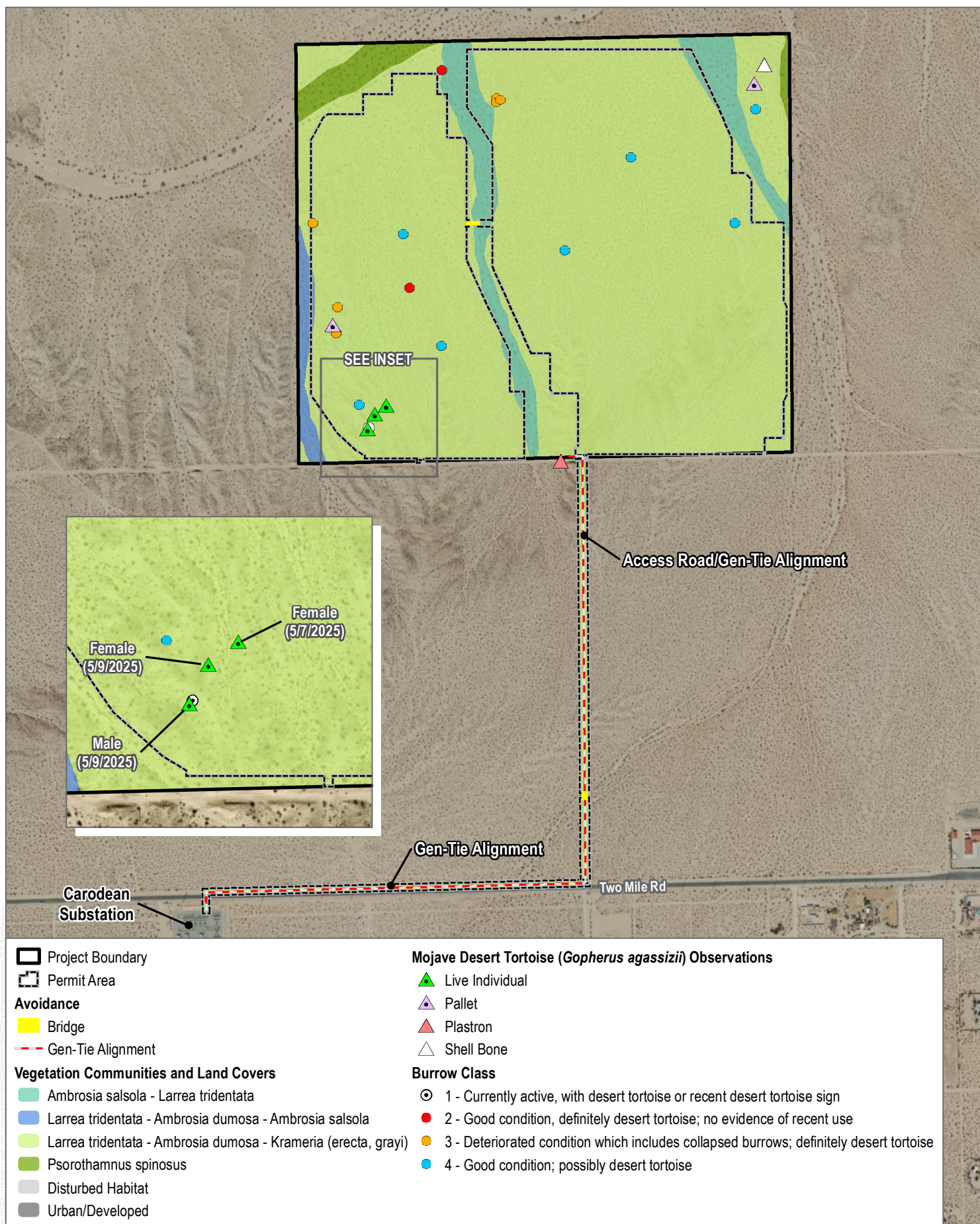
USFWS (U.S. Fish and Wildlife Service). 2009. “Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*).” Region 8, Sacramento, California. Accessed May 2025. <https://www.fws.gov/sites/default/files/documents/Desert-Tortoise-Field-Manual.pdf>.

USFWS. 2018. “Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*).” October 26, 2018. Accessed May 2025. https://www.fws.gov/sites/default/files/documents/Mojave%20Desert%20Tortoise_Pre-project%20Survey%20Protocol_2019.pdf.

USFWS. 2025. *General Conservation Plan for Issuance of Endangered Species Act Section 10(a)(1)(B) Permits for the Desert Tortoise in California*. Accessed May 2025. <https://www.virtualpublicmeeting.com/usfws-desert-tortoise-gcp-eis-scoping-materials>.



SOURCE: NEXT Engineering Group, 2024; County of San Bernardino; Open Street Map; Bing Maps



SOURCE: County of San Bernardino; Bing Maps

DUDEK



0 500 1,000 Feet

Vegetation Communities and May 2025 DETO Survey Results

2025 Desert Tortoise Survey Report, E-Group PS Solar Project, San Bernardino County, California

FIGURE 2

Attachment A

Photo Log

509475190.1



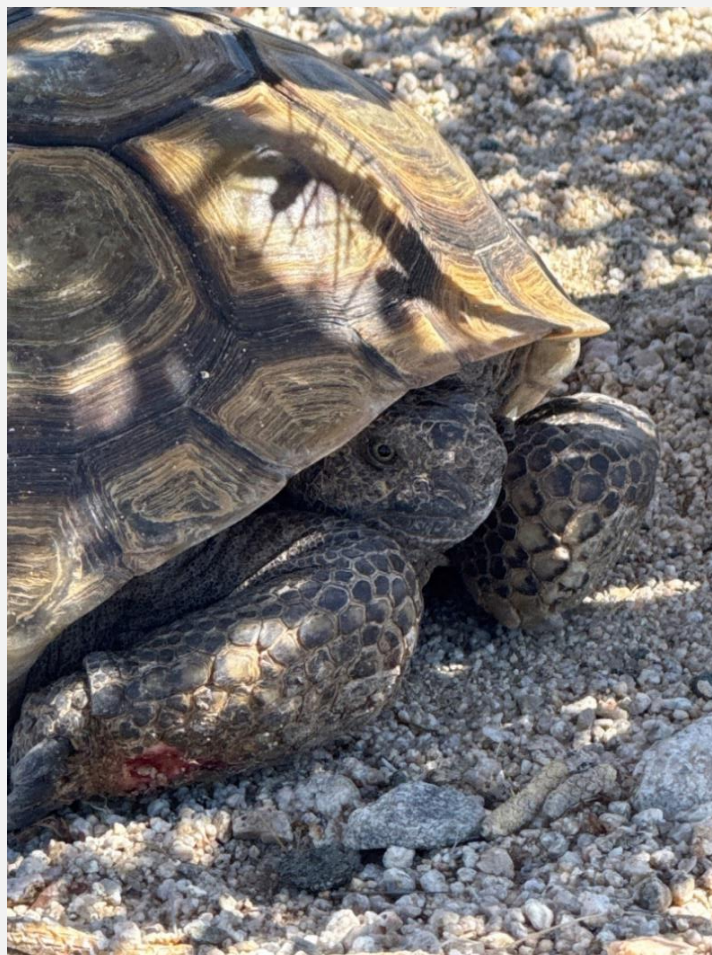
Photo 1. Photo of a Class 4 burrow (facing north) observed on 5/7/2025 within the west-central portion of the site (11S 581173 3780352).



Photo 2. Photo of a Class 4 burrow (facing north) observed on 5/6/2025 within the northeastern portion of the site (11S 581606 3780495).



Photo 3. Photo of a Class 3 burrow (facing west) and old scat observed on 5/8/2025 within the southwestern portion of the site (11S 581044 3780167).



Photos 4 and 5. Female desert tortoise observed during May 9, 2025, survey resting under branched pencil cholla (*Cylindropuntia ramosissima*) (11S 581138 3780029). Individual was also observed during May 7, 2025, survey and was identified as the same individual based on an injury on front right leg and deep grooves between scutes.



Photo 6. Male desert tortoise observed on May 9, 2025, survey outside burrow (11S 581102 3779984). Individual was also observed inside burrow during the May 7, 2025, survey.



Photos 7 and 8. Desert tortoise bone fragments and subadult plastron observed during 2025 survey in the northeastern corner of the site and along the southern boundary, respectively.

Attachment B

USFWS Desert Tortoise Survey Forms

509475190.1

USFWS DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 05/06/2005 Survey biologist(s): A. Chaney, B. Olson, B. Schultz, D. Eubanks
(month, day, year)

Site description: 29 palms

County: San Bernardino Quad: _____ Location: _____
(project name and size; general location)
(UTM coordinates, lat-long, and/or TRS; map datum)

Transect #: 1 Transect length: 5 mile Type of survey: desert tortoise
(acres to be surveyed; 100% coverage/probabilistic sampling)

GPS Start-point: 0581896, 3779927 Start time: 6:30 am
(easting, northing, elevation in meters)

GPS End-point: 0581451, 3779909 End time: 1:30 am
(easting, northing, elevation in meters)

Start Temp: 57°F ☒ Weather: clear, high visibility End Temp: 76.5°F ☒

Live Tortoises

Detection number	GPS location		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
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows¹, scats, carcasses, etc)

Detection number	GPS location		Type of sign (burrows, scats, carcass, etc)	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

¹ See section 4.1.2 for information on burrow condition class and photographing burrows

May 6, 2025: Tortoise Sign Summary

Detection number	GPS Location Easting/Northing	Burrow Type	Burrow Class	Burrow Orientation	Burrow Size (cm)	Sign
1	581844, 3780582	Inactive	Class 4	SW		18 burrow
2	581606, 3780495	Unknown	Class 4	N		20 burrow, no DETO sign
3	581802, 3780369	Unknown	Class 4	N		30 burrow, no DETO sign
4	581478, 3780319	Inactive	Class 4	N		30 burrow
5	581861, 3780669	N/A	N/A	N/A		N/A shell bone fragments
6	581840, 3780633	Inactive	N/A	N/A		22 pallet
7	581468, 3779917	N/A	N/A	N/A	N/A	subadult plastron

USFWS DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey 05/07/2025 Survey biologist(s) A. Chaney, B. Olson, D. Eubanks, C. Kelleher
(month, day, year)

Site description: 29 palms

County San Bernardino (project name and size, general location)

Transect # 57 Transect length .5 mile Type of survey desert tortoise
(UTM coordinates, lat-long, and/or TRS, map datum)

GPS Start-point 0581443, 3779922 (easting, northing, elevation in meters) Start time: 6:30 (am/pm)
(acres to be surveyed, 100% coverage/probabilistic sampling)

GPS End-point 0581057, 3779907 (easting, northing, elevation in meters) End time: 1:15 (am/pm)

Start Temp 57°F ~~X~~ Weather: clear, high visibility End Temp 75°F ~~X~~
 Live Tortoises

Detection number	GPS location		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
	Easting	Northing				
1	0581142	3780029	10:13	under pencil cholla	yes	no
2	0581108	3779981	11:00	in burrow	yes	dt not fully visible
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows¹, scats, carcasses, etc)

Detection number	GPS location		Type of sign (burrows, scats, carcass, etc)	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

¹ See section 4.1.2 for information on burrow condition class and photographing burrows

May 7, 2025: Tortoise Sign Summary

Detection number	GPS Location Easting/Northing	Burrow Type	Burrow Class	Burrow Orientation	Burrow Size (cm)	Sign
1	581248, 3780664	Unknown	Class 2	N	17	Small burrow. No sign. Could be utilized by juvenile tortoises
2	581050, 3780219	Unknown	Class 3	N	32	burrow roof appears expanded
3	581359, 3780606	Unknown	Class 3	N	20	burrow
4	581352, 3780611	Unknown	Class 3	NW	20	burrow
5	581183, 3780249	Unknown	Class 2	N	35	burrow, old scat
6	581107 3779988	Active	Class 1	W	35	occupied burrow - male observed inside
7	581352, 3780602	Unknown	Class 3	N	20	burrow
8	581242, 3780140	Inactive	Class 4	W	45	burrow, no deto signs
9	581173, 3780352	Inactive	Class 4	N	20	burrow, no deto signs
10	581088, 3780030	Inactive	Class 4	N	25	burrow
11	581037, 3780183	N/A	N/A	N/A	29	pallet, Back visible. No sign

USFWS DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 05/03/2025 Survey biologist(s): A. Chaney, B. Olson, D. Eubanks, C. Kelleher
 (month, day, year)
 Site description: 29 palms
 County: San Bernardino Quad: _____ Location: _____
 (project name and size; general location)
 Transect #: 105 Transect length: 5 mile Type of survey: desert tortoise
 (UTM coordinates, lat-long, and/or TRS; map datum)
 GPS Start-point: 0581040, 3779915 Start time: 6:30 am/pm
 (easting, northing, elevation in meters)
 GPS End-point: 0580974, 3779905 End time: 12:30 am/pm
 (easting, northing, elevation in meters)
 Start Temp: 63°F Weather: clear, high visibility, & wind End Temp: 80°F

Live Tortoises

Detection number	GPS location		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
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows¹, scats, carcasses, etc)

Detection number	GPS location		Type of sign (burrows, scats, carcass, etc)	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

¹ See section 4.1.2 for information on burrow condition class and photographing burrows

May 8, 2025: Tortoise Sign Summary

Detection number	GPS Location Easting/Northing	Burrow Type	Burrow Class	Burrow Orientation	Burrow Size (cm)	Sign
1	581001, 3780375	Unknown	Class 3	W	20	burrow, tracks
2	581044, 3780166	Inactive	Class 3	W	30	burrow, old scat, no recent signs

Attachment C

Wildlife Compendium

Wildlife Species – Vertebrates

Birds

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch

Goatsuckers

CAPRIMULGIDAE – GOATSUCKERS

Chordeiles acutipennis – lesser nighthawk

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte costae – Costa's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus corax – common raven

New World Vultures

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

WOOD WARBLERS AND ALLIES

Parulidae – Wood-Warblers

Setophaga townsendi – Townsend's warbler

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Amphispiza bilineata – black-throated sparrow

Mammals

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans – coyote

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Lepus californicus – black-tailed jackrabbit

Reptiles

Lizards

PHRYNOSOMATIDAE—IGUANID LIZARDS

Callisaurus draconoides – zebra-tailed lizard

Phrynosoma platyrhinos – desert horned lizard

Urosaurus graciosus – long-tailed brush lizard

GEKKONIDAE—GECKOS

Coleonyx variegatus – western banded gecko

TEIIDAE—WHIPTAIL LIZARDS

Aspidoscelis tigris – tiger whiptail

IGUANIDAE—IGUANAS

Dipsosaurus dorsalis – desert iguana

Turtles

TESTUDINIDAE—TRUE LAND TORTOISES

Gopherus agassizii – Mojave desert tortoise