

**BIOLOGICAL TECHNICAL REPORT FOR THE
J90 SOUTH ENERGY STORAGE PROJECT
CITY OF LANCASTER, CALIFORNIA**

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SECTION 1.0 – INTRODUCTION

Chambers Group, Inc. (Chambers Group) was retained by J90 ESS, LLC. (Applicant) to conduct a literature review and reconnaissance-level survey for the proposed J90 South Energy Storage Project. The survey identified vegetation communities, potential for the occurrence of special status species, habitats that could support special status wildlife species, and recorded all plants and animals observed or detected within the Project boundary. This biological technical report has been prepared for the Applicant to document the proposed Project is consistent with the City of Lancaster General Plan (City). Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS).

1.1 PROJECT OVERVIEW

J90 ESS, LLC proposes to construct, own, and operate the J90 South Energy Storage Project (Project), a battery energy storage facility capable of delivering up to 400 megawatts (MW) of energy storage capacity and associated ancillary services into the California electric grid. The Project will comprise battery modules installed in racks housed in purpose-built outdoor Battery Energy Storage System (BESS) enclosures, associated equipment, a project substation, and a generation tie-line (gen-tie) connecting the Project to the adjacent existing Southern California Edison (SCE) Antelope Substation. Two possible routes for the gen-tie are proposed as Options A and B. Option A will run northwest from the western boundary of the Project site for approximately .1 mile (454 feet) and onto SCE's existing substation property and into a bay position designated by SCE. Option B will head north along the west side of 90th Street, then west along the south side of W Avenue J for a total of approximately 1.25 miles and onto SCE's existing substation property and to a bay position designated by SCE. The portions of the line adjacent to the right-of-way are proposed within areas that include franchise rights for electrical transmission infrastructure.

The Project is proposed within a 19.59-acre area comprising two parcels (Assessor Parcel Number [APN] 3203-034-010, 9.28 acres; and APN 3203-034-011, 10.31 acres) in Los Angeles County, California. The Project is located within the California Independent Service Operator (CAISO) Los Angeles Basin Local Capacity Resource Area and will be charged from the CAISO grid via the Project's interconnection to the Antelope Substation. Energy stored in the Project will then be discharged into the grid when the energy is needed, providing important electrical reliability services to the local area.

The Project will be monitored and operated remotely 24 hours per day, 7 days per week from an off-site control center with no permanent on-site operations and maintenance personnel. The Project will include a small office and storage structure equipped with restroom facilities for temporary operations and maintenance (O&M) personnel use. Operating staff, typically in crews of two to four staff members, will visit the site on an approximately bi-weekly basis as needed for project maintenance. The site will be fully fenced and will not be open to the public.

1.2 PROJECT SITE AND LOCATION

The approximately 19.6-acre Project site is located on two parcels, APNs 3203-034-010 and 3203-034-011 measuring 9.28 and 10.31 acres respectively, along 90th Street West near the Del Sur neighborhood in the City of Lancaster (City), Los Angeles County, California (Figure 1: Project Location and Vicinity Map). The Del Sur area is characterized by its minimal development and rural character. Unincorporated Antelope Valley (under the jurisdiction of the County of Los Angeles) is located to the west, north and south, with

urbanized Lancaster to the east. The Project site centroid is 34.683361°N, 118.291653°W, on the *Del Sur*, California U.S. Geological Survey (USGS) 7.5-minute quadrangle (Township 07 North, Range 13 West, Section 19, SMB Meridian). The Project site is bordered to the east by 90th Street West. West Avenue J is located 0.46 miles north and West Avenue K is located 0.56 miles south of the Project site. Areas surrounding both West Avenue J and West Avenue K are underdeveloped and classified by the rural character. High voltage powerlines are located approximately 1,000 feet southwest of the Project site, which connect with SCE's Antelope Substation, located less than 500 feet northwest of the Project site. The elevation range at the Project site is approximately 2,430 feet above mean sea level (amsl).

The Project site currently consists of an undeveloped grassy lot and dirt access road. Land bordering the north and south of the site are similarly undeveloped. The City's General Plan designates land use within the Project site as Non-Urban Residential. According to the City's Zoning Ordinance, the Project would be likely classified as a "electric distribution substation", which is defined as "a facility that contains an assembly of equipment that is part of a system for the distribution of electric power, where electric energy is received at a sub-transmission voltage and transformed to a lower voltage for distribution for general consumer use" (Title 17, Chapter 17.04.240). Furthermore, the Project site is zoned RR-2.5 Rural Residential. Electric distribution substations are an allowable use within the Project site with issuance of a Conditional Use Permit (CUP) for parcels zoned for rural residential uses.

The Project site is characterized by the California Department of Conservation as "Grazing Land" and does not include Prime Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. Surrounding the Project site there is land designated as Grazing Land and Urban/Built up land. However, there is no Prime Farmland or Farmland of Statewide Importance in the vicinity of the Project site. The closest land designated as Prime Farmland is located approximately 1.4 miles to the north of the Project site. There are no Williamson Act lands within the City. Additionally, no forested land exists in the area, as the Project site is surrounded by roads and undeveloped high desert.

EXISTING CONDITIONS

The Project site is dominated by approximately 17.18 acres of low growing non-native herbaceous annual grasslands (i.e., Disturbed California Poppy – Lupine Fields and Disturbed Fiddleneck Fields). A small patch (0.16 acre) of Disturbed Rubber Rabbitbrush Scrub is located on the southeastern corner of the Project site. The Project site is containing primarily flat terrain with soils identified as well drained, sandy loam derived from granite (USDA 2022). Non-native vegetation cover is estimated at 90 percent. Evidence of off-road vehicle use, and illegal dumping is present intermittently throughout the Project site.

1.3 PROJECT CONSTRUCTION

The Applicant is requesting a Condition Use Permit (CUP) form the City of Lancaster for the implementation of an energy storage facility within the approximate 19.6-acre Project site, located in the City of Lancaster within Los Angeles County. The Project construction includes site preparation, grading, installation of drainage and retention basins, foundations/supports, setting battery enclosures, wiring and electrical system installation, and assembly of the accessory components including inverter transformers and generation step-up transformers.

Raw materials required for construction include gravel for roads and pads; concrete, sand, and cement for foundations; and water for concrete, dust control, and erosion controls. Additionally, up to 30,000 cubic yards of fill would be required to support construction of the Project. Table 1 provides anticipated

construction workforce and examples of typical heavy equipment that may be used during Project construction activities.

Table 1: Construction Workforce and Equipment Required for a Typical Battery Storage Facility

Construction Activity	Workforce	Typical Construction Equipment*
Office Staff / Management	20	Pickup and small vehicles
Foundations	60	Dozer, grader, excavator or drill rig, crane, concrete pump trucks, concrete trucks, pickup trucks with trailers, all terrain forklifts, water trucks, dump trucks, compactors, generators, welders
Fence Construction	15	Forklift, backhoe, pickup trucks
Roads	8	Dozer, grader, front end loaders, compactor, roller, pickup trucks, water trucks, dump trucks, compactors, scrapers
Battery Placement	24	Crane, forklift, pickup trucks
Laborers	100	Pickup trucks
Owner Representatives	8	Pickup trucks
Battery Supplier	75	Pickup trucks
Total Number of Workers:	310	
*Equipment primarily runs on diesel fuel		

The sequence of Project construction activities would generally occur as follows:

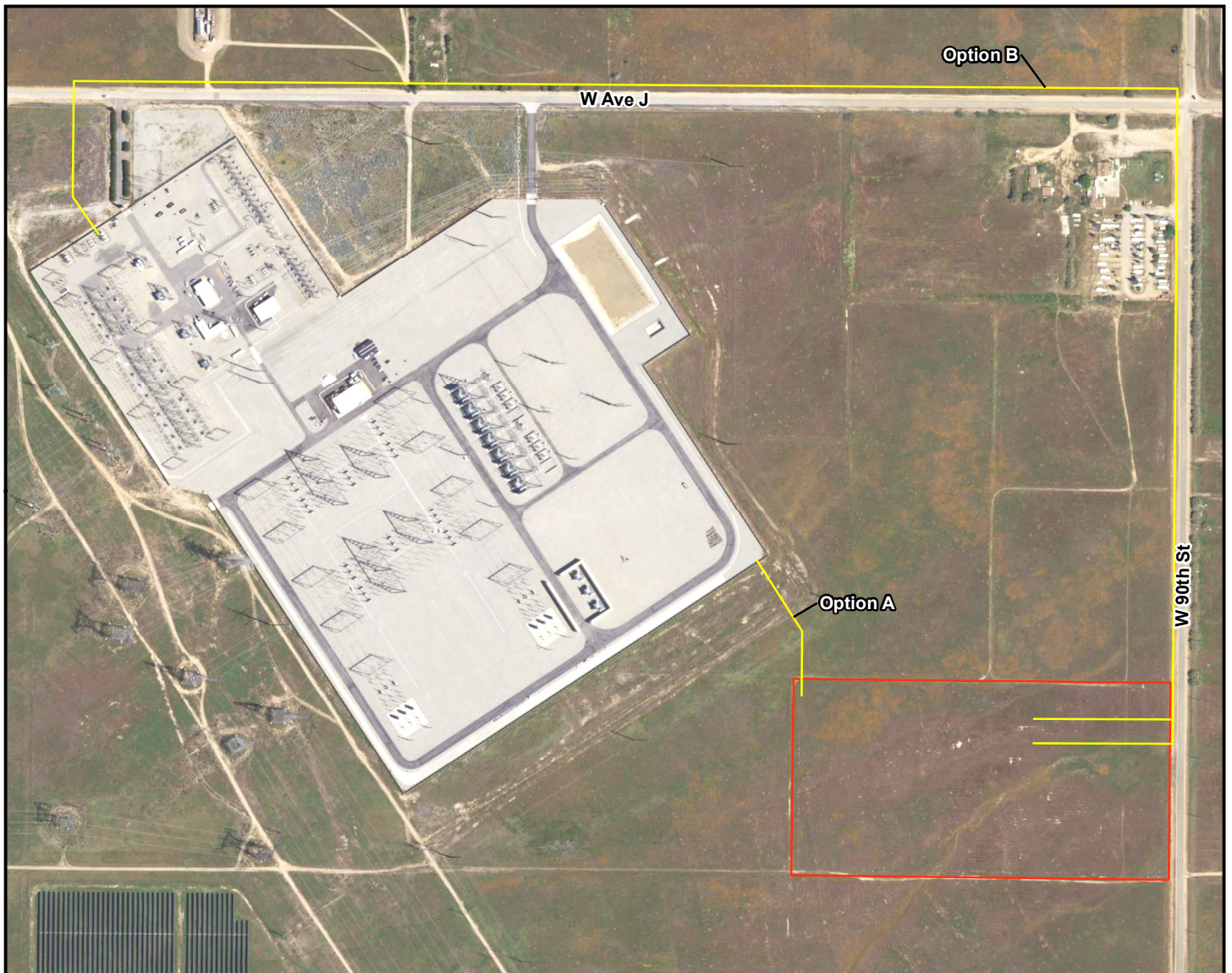
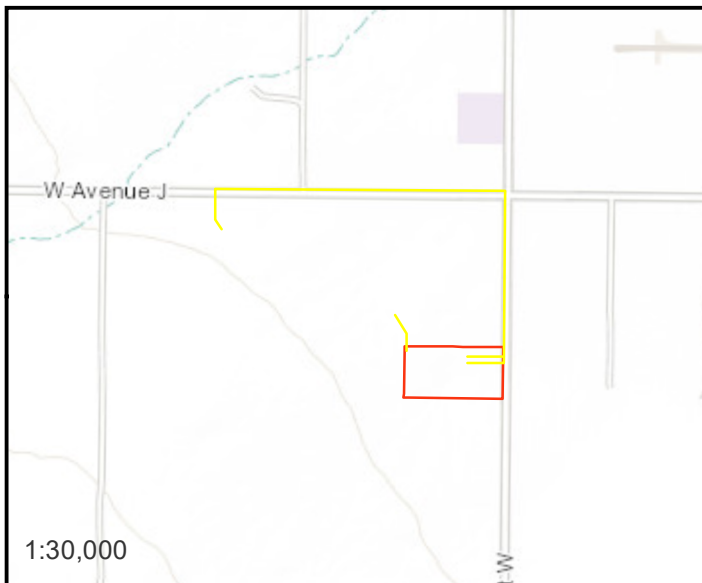
1. Stormwater Best Management Practices (BMP's) and temporary fencing installation
2. Equipment staging and mobilization
3. Site preparation, grading, and compaction
4. Trenching for electrical and communications cables, wires, and conduits
5. Install below-ground vaults, conduit and/or duct banks and conduit and backfill of trenching
6. Earthwork preparation of equipment foundations
7. Pour-in-place concrete footings, pad foundations, and/or piers and install driven pilings
8. Foundation backfill and site compaction (as necessary)
9. Install structures on foundations including substation, BESS, and miscellaneous pad-mounted equipment
10. Pull cables and connect equipment
11. Install above-ground utilities
12. Placement of finished surface material including any soil stabilization and/or landscaping
13. Removal of temporary fencing and BMPs not required
14. Install safety features, permanent fencing, and security lighting
15. Commissioning of equipment

The approximately 30 acre-feet of water required during construction is expected to be procured through a commercial provider.

Project trips, or average daily trips (ADTs), associated with Project construction is estimated to include between 15 and 35 ADT for workers and equipment/materials deliveries, depending on the construction phase. In addition, approximately 100 haul trips are estimated over several days during Project site grading. It is estimated that the peak trips associated with the Project would be 75 ADT.

SURVEY AREA

The Survey Area for the biological reconnaissance survey included the Project site portion (the approximately 19.6-acre battery energy storage facility), the proposed gen-tie line portion, and respective buffers. An additional 100-foot buffer for the proposed Project site portion was included in the Survey Area for special status plants and vegetation communities for a total of approximately 30 acres. An additional 25-foot buffer from the edge of the existing roads (West Avenue J and 90th Street West) for the proposed gen-tie line portion was included in the Survey Area for special status plants and vegetation communities for a total of approximately 14.89 acres. In accordance with protocol set forth by the CDFW Staff Report on Burrowing Owl Mitigation (2012), an additional 150-meter (500-foot buffer) around suitable burrowing owl habitat for the Project site portion and the proposed gen-tie line portion was also included in the Survey Area, for a total of approximately 218 acres.



- Project Boundary
- Gen-Tie Route Options

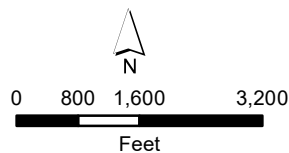


Figure 1
J90 South Energy Storage
Project Location and Vicinity

SECTION 2.0 – METHODOLOGY

2.1 LITERATURE REVIEW

Prior to performing the field survey, existing documentation relevant to the Survey Area was reviewed. The most recent records of the California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2022), the USFWS Critical Habitat Mapper (USFWS 2022b) and the California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2022) were reviewed for the following quadrangles containing and surrounding the Survey Area: *Del Sur, Fairmont Butte, Green Valley, Lake Hughes, Lancaster West, Little Buttes, Ritter Ridge, Rosamond, and Sleepy Valley*, California USGS 7.5 minute quadrangles. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Survey Area.

2.2 SOILS

Before conducting the surveys, soil maps for Los Angeles County were referenced online to determine the types of soil found within the Survey Area. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2022).

2.3 JURISDICTIONAL WATERS

Mauricio Gomez and Paul Morrissey conducted a general assessment of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW for the proposed Project area on April 13, 2022. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States (US). The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The assessment was conducted by a desktop survey through the United States Geological Survey National Hydrography Dataset for hydrological connectivity.

For the purpose of determining hydrologic connectivity to a Traditional Navigable Water (TNW), the most recent records of the USFWS National Wetlands Inventory (NWI; USFWS 2022a) data, U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) blue-lined drainages, aerial imagery, and topographic maps were reviewed; and all features were inspected in the field on and off site for true connectivity. Potential USACE / RWQCB / CDFW jurisdictional areas identified during the literature search and aerial image analysis were field checked for the presence of definable channels, soils, wetland vegetation, riparian habitat, and hydrology. Each drainage was examined in the field, and the channel banks were examined for signs of flow, terraces, drift deposits and other indicators that would determine the location of the Ordinary High Water Mark (OHWM). Climate and flow frequency were taken under consideration during the survey effort. Data were collected using a combination of records entered into ESRI ArcGIS Collector and hand-written field notes.

Potential wetland habitats were evaluated using the methodology set forth in the *1987 Corps of Engineers Wetlands Delineation Manual* (1987 Wetland Manual; USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (version 2.0)* (2008 Arid West Supplement; USACE 2008). The methods set forth in the 1987 Wetland Manual and the 2008 Arid West Supplement involve the delineation of wetlands based on the presence of three wetland parameters: a predominance of hydrophytic vegetation, wetland hydrology, and hydric soils. These wetland parameters are discussed in greater detail below.

Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987). The potential wetland areas were surveyed by walking through the Survey Area and making observations of those areas exhibiting characteristics of jurisdictional wetlands.

Areas supporting plant life potentially indicative of wetlands were evaluated in the field according to current USACE wetland delineation procedures described in the 1987 Wetland Manual (USACE 1987) and the 2008 Arid West Supplement (USACE 2008). The dominant and subdominant plant species present in the sample pits of these potential wetland areas were identified and their wetland indicator status noted based on the current National Wetland Plant List (USACE 2021). The list was referenced to classify identified plants using the following categories: obligate wetland (OBL; almost always occurs in wetlands), facultative wetland (FACW; usually occurs in wetlands but occasionally found in non-wetlands), facultative (FAC; equally likely to occur in wetlands and non-wetlands), facultative upland (FACU; usually occurs in non-wetlands but occasionally found in wetlands), and obligate upland (UPL; almost always occurs in non-wetlands).

Hydric Soils

A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (USACE 2008) due to periods of anaerobic conditions in the soil. The hydric soil criterion is considered satisfied at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present.

Potential hydric soils were investigated within the survey area. Sample soil pit locations were selected, and a hole was dug to a typical depth of 18 inches (unless prevented by some occluding material) or occasionally deeper to determine soil color, evidence of soil saturation, depth to shallow groundwater, and indicators of a reducing soil environment (e.g., redox concentrations or pore linings, gleyed soils, hydrogen sulfide odor). Soil matrix colors were classified using the Munsell Soil-Color Charts (Munsell Color 2009).

Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008).

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered satisfied at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample pit, the wetland hydrology criterion is considered satisfied.

2.4 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

Chambers Group biologists Heather Clayton, Joanna Kipper, Mauricio Gomez, and Paul Morrissey conducted the general reconnaissance survey within the Survey Area to identify the potential for occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Survey Area between 0800 and 1500 hours. Mauricio Gomez and Paul Morrissey were on site April 13 and Heather Clayton and Joanna Kipper were on site May 10, 2022. Weather conditions during the survey included temperatures ranging from 41 to 75 degrees Fahrenheit, with 0 percent cloud cover, no precipitation, and wind speeds ranging from 2 to 6 miles per hour during each survey. Photographs of the Survey Area were taken to document existing conditions (Appendix A).

2.4.1 Vegetation

Chambers Group botanists Heather Clayton and Joanna Kipper documented vegetation communities during the May 10, 2022, focused plant survey. Vegetation communities within the Survey Area were identified, qualitatively described, and mapped onto a high-resolution imagery aerial photograph. Plant communities were determined in accordance with the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). All plant species observed within the Survey Area were recorded. A comprehensive list of the plant species observed during the survey is provided in Appendix B.

2.4.2 Wildlife

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (native vegetation, wildlife trails, etc.) or in habitats with the potential to support state- and/or federal-listed or otherwise special status species. Notes were made on the general habitat types, species observed, and the conditions of the Survey Area. A comprehensive list of the wildlife species observed during the survey is provided in Appendix C.

2.5 FOCUSED SURVEYS

Chambers Group conducted focused plant and burrowing owl surveys within the Survey Area. Methodologies are provided below.

2.5.1 Focused Plant Survey

The 2022 focused plant survey was conducted on May 10, 2022, by Chambers Group botanists Heather Clayton and Joanna Kipper during spring to capture the blooming periods of all special status plant species

with a potential to occur on the Survey Area. Chambers Group botanists conducted the surveys on foot throughout the Survey Area. An additional 100-foot buffer was surveyed within suitable habitat surrounding the Project site portion of the Survey Area. Survey methods are consistent with protocols set forth by the California Native Plant Society (CNPS 2001), the California Department of Fish and Wildlife (CDFW 2018), and the United States Fish and Wildlife Service (USFWS 2000).

If any one of the targeted plant species or any other special status species were observed during the surveys, botanists would record the location using Global Positioning System (GPS) technology. Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in *The Jepson Manual, Vascular Plants of California, Second Edition* (Baldwin et al. 2012) or other desert plant field guides. Plant nomenclature follows that of Baldwin et al. (2012).

2.5.2 Focused Burrowing Owl Survey

The 2022 focused burrowing owl surveys were conducted by Chambers Group biologists Heather Franklin, Hannah Romano, Austin Burke, Paul Morrissey, and Mauricio Gomez throughout suitable habitat during the BUOW breeding season (March 1 to August 31). The Survey Area included the Project site portion, the gen-tie line portion, and a 150-meter (500-foot) buffer zone in accordance with protocol set forth by CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012).

The surveys were conducted to determine the presence or absence of any BUOW, occupied burrows, potential burrows, areas where burrows are concentrated, BUOW sign (scat, burrows, carcasses, courtship rings, drinking depressions, etc.) within the Survey Area. The survey was conducted over the entire Survey Area using approximately 25- to 30-meter transects to achieve 100 percent coverage. Additionally, the 150-meter (500-foot) buffer zone was surveyed where habitat was present using 25- to 30-meter transects to account for any BUOW burrows or foraging habitat that may exist adjacent to the Survey Area. All sign of BUOW activity, locations of any BUOWs, and all wildlife and sensitive species observed (visual, vocalizations, etc.) during the focused BUOW surveys were documented and their locations were mapped using GPS technology (ESRI ArcGIS Collector).

SECTION 3.0 – RESULTS

3.1 SOILS

After review of USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2022), it was determined that the Survey Area is located within the Antelope Valley Area, California area CA675. Based on the results of the database search, three soil types were observed in the Survey Area (Figure 2: USDA Soils Map).

- **Greenfield sandy loam (GsC), 2 to 9 percent slopes** occurs throughout the entire site. These soils are well drained and occur at elevations of 2,600 to 4,200 feet amsl. The soil profile is composed of sandy loam, stratified loamy sand to coarse sandy loam. These soils have a low runoff classification and are not subject to frequent flooding.
- **Greenfield sandy loam (GsA), 0 to 2 percent slopes** occurs north of the gen-tie line portion of the Survey Area. These soils are well drained and occur at elevations of 2,600 to 4,200 feet amsl. The annual mean precipitation for this soil type is 9 to 12 inches. The parent material is alluvium derived from granite. The soil profile is composed of sandy loam, stratified loamy sand to coarse sandy loam. These soils have a very low runoff classification, and the available water storage is classified as moderate. This is a well-drained soil with a water table approximately more than 80 inches below the surface.
- **Sunrise sandy loam (Sv)** occurs along the eastern end of the gen-tie line portion of the Survey Area. These soils are moderately well drained and occur at elevations of 1,500 to 3,500 feet amsl. The annual mean precipitation for this soil type is five inches. The parent material is alluvium derived from granite. The soil profile is composed of sandy loam, loam, cemented, and stratified gravelly sandy loam to loam. These soils have a high runoff classification, and the available water storage is classified as low. This is a moderately well-drained soil with a water table approximately more than 80 inches below the surface.

3.2 JURISDICTIONAL WATERS

The Survey Area is within the Amargosa Creek Watershed (Hydrological Unit Code (HUC) – 10; HUC 1809020614) (Figure 3: Watersheds Map). This watershed covers an area of approximately 283 square miles (California Water Indicators Portal 2022), from Lake Palmdale in Palmdale, Los Angeles County to the west of the 170th Street West and West Avenue D intersection. The Survey Area is located north of the Portal Ridge Mountains (north of the Leona Valley), between 90th Street West to the east and 110th Street West to the west.

According to the NWI and NHD datasets, an unnamed freshwater pond is located approximately 536-feet east of the northeastern edge of the Project site portion (Figure 4: NWI and NHD Map), within the BUOW 500-ft Survey Area for the gen-tie line portion that runs along 90th St West. The NWI freshwater pond covers approximately 0.19-acre, and the habitat is classified by the NWI database as a palustrine (P), unconsolidated shore (US), and temporary flooded (A) excavated (x) system [PUSAx]. This particular system can be dominated by trees, shrubs, persistent emergent, and all such wetlands that occur in areas where salinity is below 0.5 parts per thousand and is characterized by woody vegetation that is less than 6 meters in height (USFWS 2022a). During the growing season, surface water is present ranging from a few days to a few weeks. However, the water table will lie below the ground surface for most of the season (USFWS 2022a). In addition, this system is identified as a wetland basin or channel that was excavated by humans (USFWS 2022a), does not have connectivity to any surrounding waters and is

therefore considered non-jurisdictional. Based on field observations, the actual edge of the unnamed freshwater pond is located across the street, east of 90th Street West, outside of the Project boundary within the Survey Area. The eastern boundary of the proposed impact area (based on current Project design) of the Project site portion is located approximately 536-feet from the edge of the freshwater pond area (Figure 4: NWI and NHD Map). The habitat within the human excavated ponded area was non-native ruderal vegetation, similar to the surrounding area, and bordered on the east side of 90th Street West by non-native athel (*Tamarix aphylla*) trees. Although this feature is non-jurisdictional, it will be avoided during construction of the gen-tie line.

One ephemeral drainage identified on the NHD layer is located approximately 0.21 miles west of the western end of the proposed gen-tie line. The ephemeral drainage is part of many drainages that flow down from the Portal Ridge Mountains to the south of the Survey Area, and flow northeast towards the City of Lancaster. This unnamed ephemeral drainage appears to be a remnant of a historical drainage that is not directly connected to the Portal Ridge Mountains to the south; this drainage appears to begin approximately 2,610 feet west through a solar field and a partially buried culvert along West Avenue J (west of the proposed gen-tie line) and terminates approximately 0.85 mile north of the Project boundary at the intersection of Lancaster Blvd and 90th Street West. The drainage now appears to receive surface runoff from the solar fields and from surface runoff along West Avenue J. Several soil pits were dug along the drainage. Soils were found to be sandy for the first 6 inches and transitions to sandy-loam soils down to 18 inches. No redoximorphic features were found in the soils. The drainage is mostly devoid of vegetation with the exception of emerging native annuals and non-native grasses and did not exhibit riparian or wetland plant species. Based on current design of the proposed gen-tie line, impacts to this drainage is not anticipated.

Several non-jurisdictional swale features were identified within the Project site portion of the Survey Area (Figure 5: Jurisdictional Waters Assessment Map). No NHD or NWI data for this area was identified during the literature review. The swales are non-channelized, shallow depressions that carry surface water immediately following a rain event. The swales lack OHWM and evidence of water flow such as terraces, drift deposits, destruction of vegetation, or other indicators of a flowing channel. The swale features appear to be isolated within the Survey Area and do not connect to any waters surrounding the area. The vegetation within the swale features is documented as Disturbed California Poppy – Lupine Fields and Disturbed Rubber Rabbitbrush Scrub (see Figure 6: Vegetation Communities Map). No riparian or wetland plants were observed. In addition, several small mammal burrows were identified within the swale features indicating that these features do not hold water for sustained periods of time.

3.3 VEGETATION COMMUNITIES

Five upland vegetation communities and two land types were mapped within the Survey Area (Table 2). No wetland or riparian habitats were present on site. A map showing these different areas within the Survey Area is provided as Figure 6, and the communities are described in the following subsections.

Table 2: Vegetation Communities Occurring Within the Survey Area

Vegetation Community and Other Areas	Size (Acres)	
	Project Site	Gen-Tie Line
Upland Scrub Communities		
Bare Ground	0	4.82
Developed	0	3.45
Disturbed	0.39	5.44
Disturbed California Poppy – Lupine Fields	1.87	0
Disturbed Fiddleneck Field	17.18	0
Disturbed Rubber Rabbitbrush Scrub	0.16	0.47
Tamarisk Thickets		0.71
Total:	19.60	14.89

3.3.1 Disturbed

Disturbed areas are those areas that are either devoid of vegetation (cleared or graded) such as dirt roads or those areas that have a high percentage of non-native weedy and ruderal species (i.e., greater than 25 percent of the species cover).

Disturbed areas are present within 0.39 acre of the Project along the perimeter of the Project boundary and approximately 5.44 acres within the gen-tie line portion of the Survey Area. Native plants found within this community on site include coast goldfields (*Lasthenia californica*) and desert dandelion (*Malcothrix glabrata*). However, most of the disturbed areas contain non-native plant species typical of this community including foxtail chess (*Bromus madritensis* subsp. *rubens*), soft chess (*Bromus hordeaceus*), Russian thistle (*Salsola tragus*), shortpod mustard (*Hirschfeldia incana*), red stemmed filaree (*Erodium cicutarium*), slender wild oat (*Avena barbata*), and tumble mustard (*Sisymbrium altissimum*).

3.3.2 Disturbed California Poppy – Lupine Fields

In California Poppy – Lupine Fields, as described by Sawyer et al. (2009), California poppy (*Eschscholzia californica*) is dominant or co-dominant with lupines (*Lupinus* spp.) in the herbaceous layer. Additional species include a mix of native and non-native herbaceous annuals including brome grass (*Bromus* spp.), clarkia (*Clarkia* spp.), common fiddleneck (*Amsinckia menziesii*), miniature lupine (*Lupinus bicolor*), red stemmed filaree, short pod mustard, and slender wild oat. Herbaceous layer is less than 20 inches in height and cover is intermittent to continuous. This community occurs at elevations below 3,280 feet within well-drained sandy to loamy soils along upland slopes or flats.

There are 1.87 acres of Disturbed California Poppy – Lupine Fields present within the Project site portion of the Survey Area. Native plants observed within this community on site include angel gilia (*Gilia angelensis*), California poppy, chick lupine (*Lupinus microcarpus* var. *densiflorus*), coast goldfields, common fiddleneck, devil's lettuce (*Amsinckia tessellata*) and small lupines. Non-native species include red brome, soft chess, and Mediterranean schismus (*Schismus barbatus*).

3.3.3 Disturbed Fiddleneck Fields

In Disturbed Fiddleneck Fields, as described by Sawyer et al. (2009), common fiddleneck and devil's lettuce are the dominant herbaceous species in the canopy layer with coast goldfields, brome grass, miniature lupine, turkey-mullein (*Croton setiger*), and wild oat (*Avena* spp.) present. Canopy height is less than 3 feet. This community occurs along upland slopes, broad valleys, grazed or recently burned areas, and fallow fields at elevations less than 4,925 feet within well-drained and loamy soils.

There are 17.18 acres of Disturbed Fiddleneck Fields throughout the Project site portion of the Survey Area. Native plant species observed within this community onsite include common fiddleneck, coast goldfields, devil's lettuce, and turkey-mullein. Non-native species observed include: tumble mustard, slender wild oat, soft chess, red-stemmed filaree, and red brome.

3.3.4 Disturbed Rubber Rabbitbrush Scrub

In Disturbed Rubber Rabbitbrush Scrub, as described by Sawyer et al. (2009), Rubber rabbitbrush (*Ericameria nauseosa*) is dominant or co-dominant in the shrub canopy with big sagebrush (*Artemisia tridentata*), California buckwheat (*Eriogonum fasciculatum*), scalebroom (*Lepidospartum squamatum*), and bitterbrush (*Purshia tridentata*). Emergent trees may be present including California juniper (*Juniperus californica*) as well. Shrub canopy for this community is less than 10 feet in height. This community occurs in areas with well-drained sand and gravel soils at elevations below 10,500 feet.

There is 0.16 acre of Disturbed Rubber Rabbitbrush Scrub at the southeastern corner of the Project site portion of the Survey Area and 0.47 acre within the gen-tie line portion of the Survey Area. Native plants observed within this community on site include rubber rabbitbrush, silver puffs (*Uropappus lindleyi*), wire lettuce (*Stephanomeria pauciflora*), and valley vinegar-weed (*Lessingia glandulifera*). Non-native species include soft chess, red brome, and cheat grass.

3.3.5 Tamarisk Thickets

Tamarisk Thickets are typically found along arroyo margins, lake margins, ditches, washes, rivers, and other watercourses (Sawyer et al. 2009). Tamarisk species possess eco-physiological characteristics that make them remarkably formidable as invasive plants. They are long-lived shrubs or trees with extensive and deep root systems. They consume large quantities of water, possibly more than any other woody species in similar habitats, because they can obtain water at very low water potentials and have very high water-use efficiencies. They are highly tolerant of alkaline and saline habitats and can concentrate salts in their leaves (Sawyer et al. 2009). Mediterranean tamarisk (*Tamarix ramosissima*) or another *Tamarix* species is dominant in the shrub canopy. Emergent trees may be present at low cover, including Fremont cottonwood or willow species (*Salix* spp.). Shrubs are typically less than 8 meters in height with a canopy that is continuous or open. The herbaceous layer is sparse (Sawyer et al. 2009).

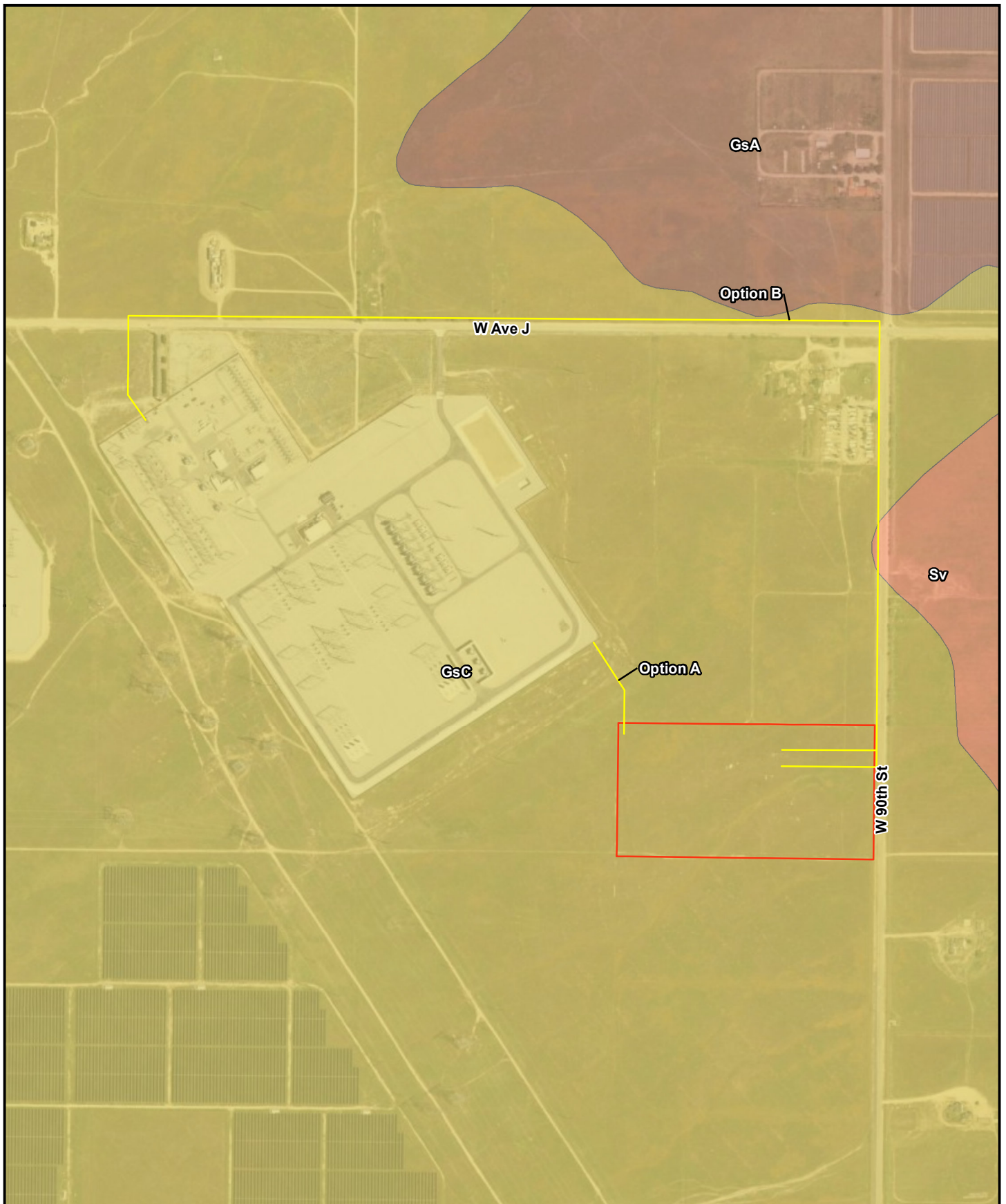
Tamarisk Thickets dominated by *Tamarix aphylla* bordered the east side of 90th Street West. Approximately 0.71 acre of Tamarisk Thickets occurs within the gen-tie line portion of the Survey Area. This tamarisk is not associated with wetland or riparian habitat and will be avoided during Project construction.

3.3.6 Developed

Developed areas are those where various forms of pavement or man-made earthen structures alter the soil surface. This surface is recorded as separate from bare ground due to the erosional, use, and hydric properties associated with the feature. Due to the lack of permeability or intentionally restrictive design, these areas channel water run-off and can result in unique erosional management considerations. Developed areas onsite occur within the gen-tie line portion of the Survey Area along West Avenue J and 90th Street West. Approximately 3.45 acres total of Developed areas are present within the Survey Area.

3.3.7 Bare Ground

Bare Ground areas are generally devoid of vegetation, but do not contain any form of desert pavement or former infrastructure. These areas are typically associated with areas that have been previously cleared by earth-moving machinery, are dirt access roads, and/or consist of naturally occurring areas devoid of vegetation. Compared to Developed areas, Bare Ground areas have higher water permeability and higher fossorial rodent habitat potential. Bare Ground areas onsite occur within the gen-tie line portion of the Survey Area along West Avenue J and 90th Street West. Approximately 4.82 acres total of Bare Ground areas are present within the Survey Area.



- Project Boundary
- Gen-Tie Route Options

Soils

- GsA- Greenfield sandy loam, 0 to 2 percent slopes
- GsC - Greenfield sandy loam, 2 to 9 percent slopes
- Sv - Sunrise sandy loam

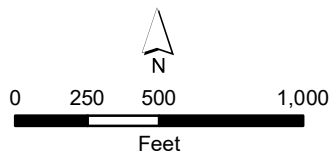
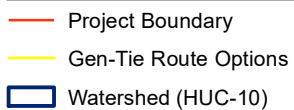
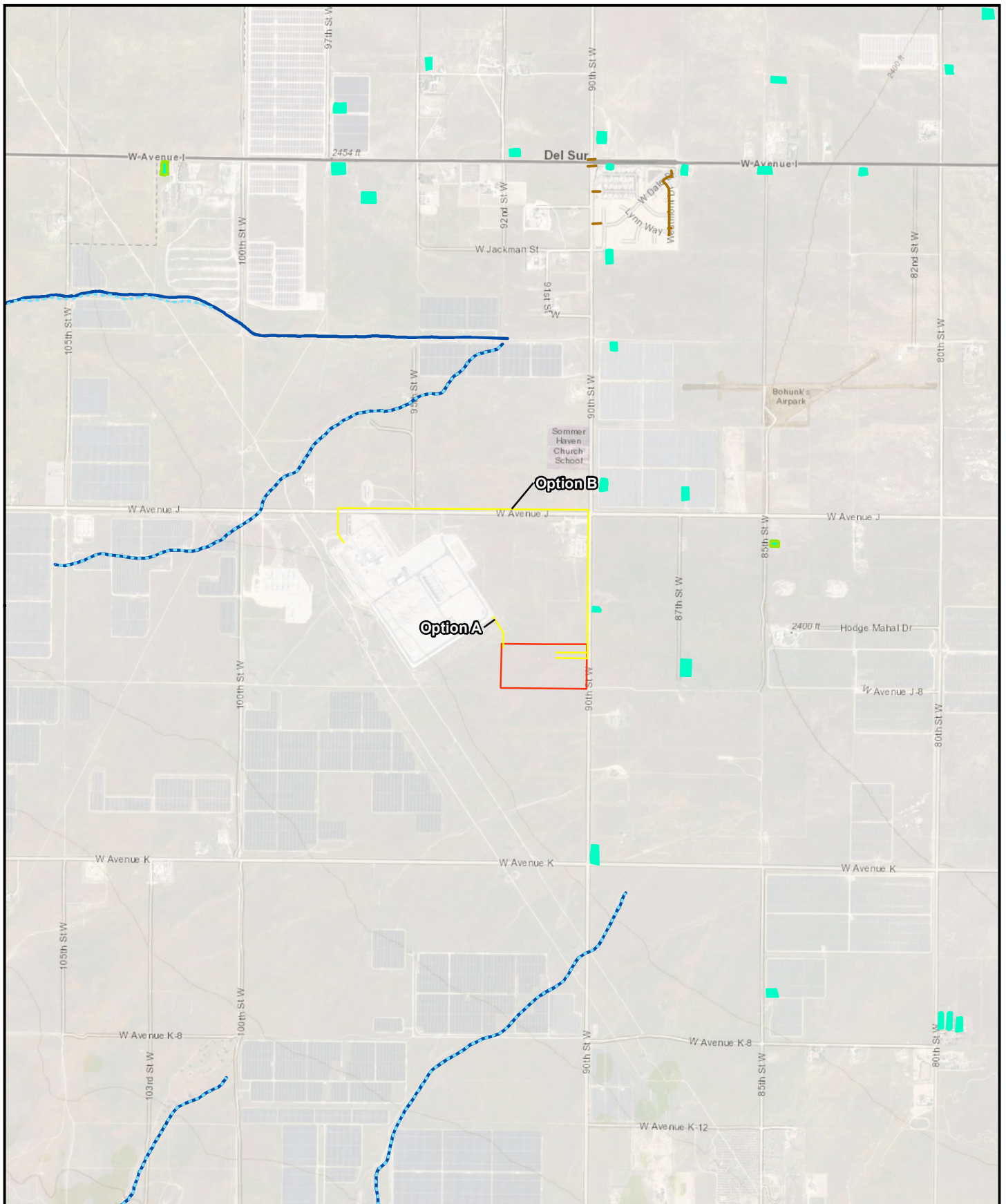


Figure 2
J90 South Energy Storage
Soils



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- Project Boundary — Gen-Tie Route Options
NWI
■ Freshwater Forested/Shrub Wetland ■ Riverine
■ Freshwater Pond
NHD
— Pipeline - - - Stream/River

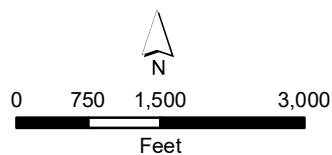
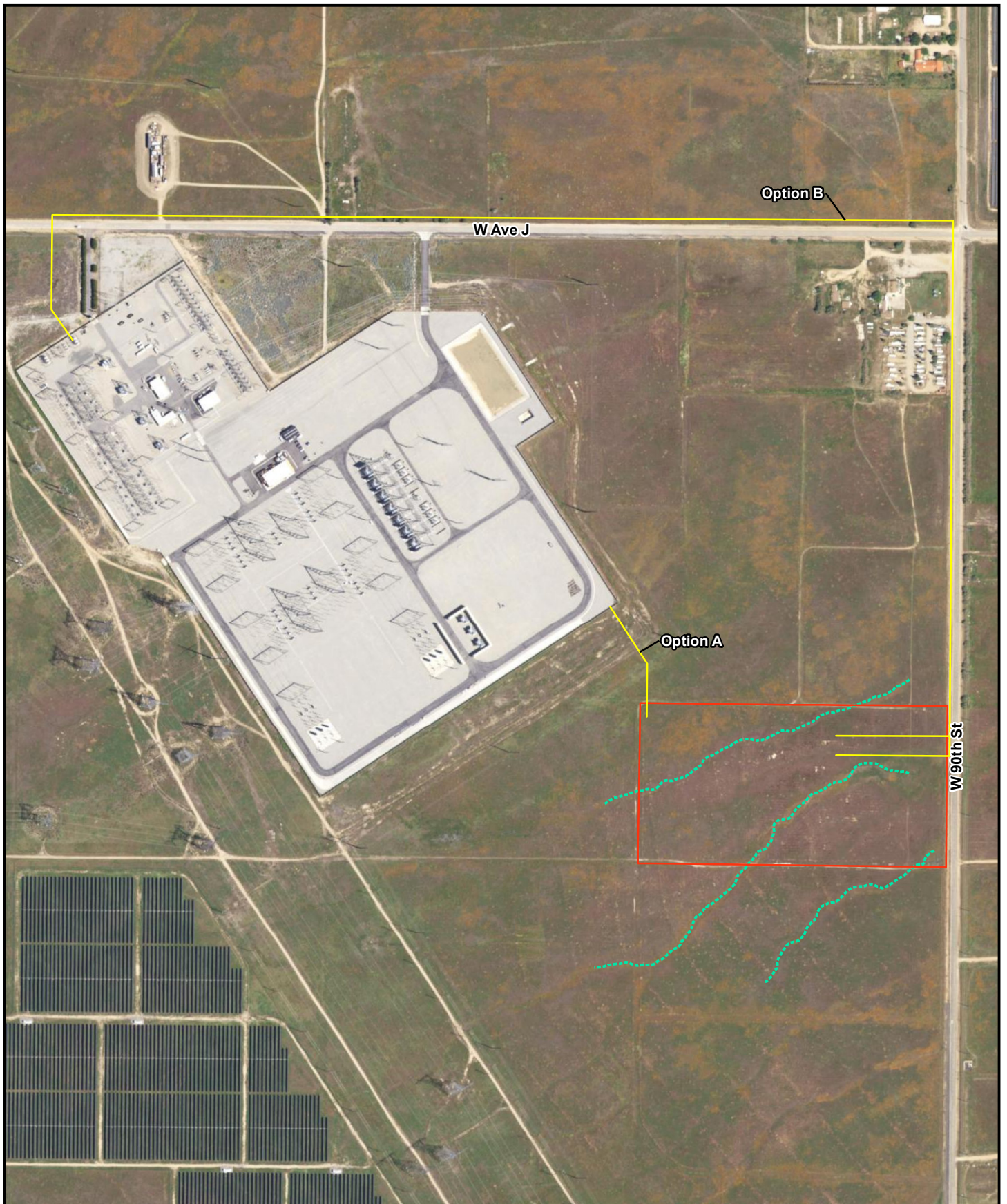


Figure 4
J90 South Energy Storage
NWI and NHD



- Project Boundary
- Gen-Tie Route Options
- - - Swale

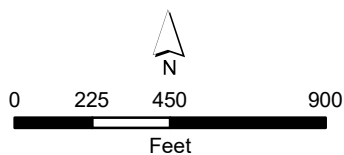
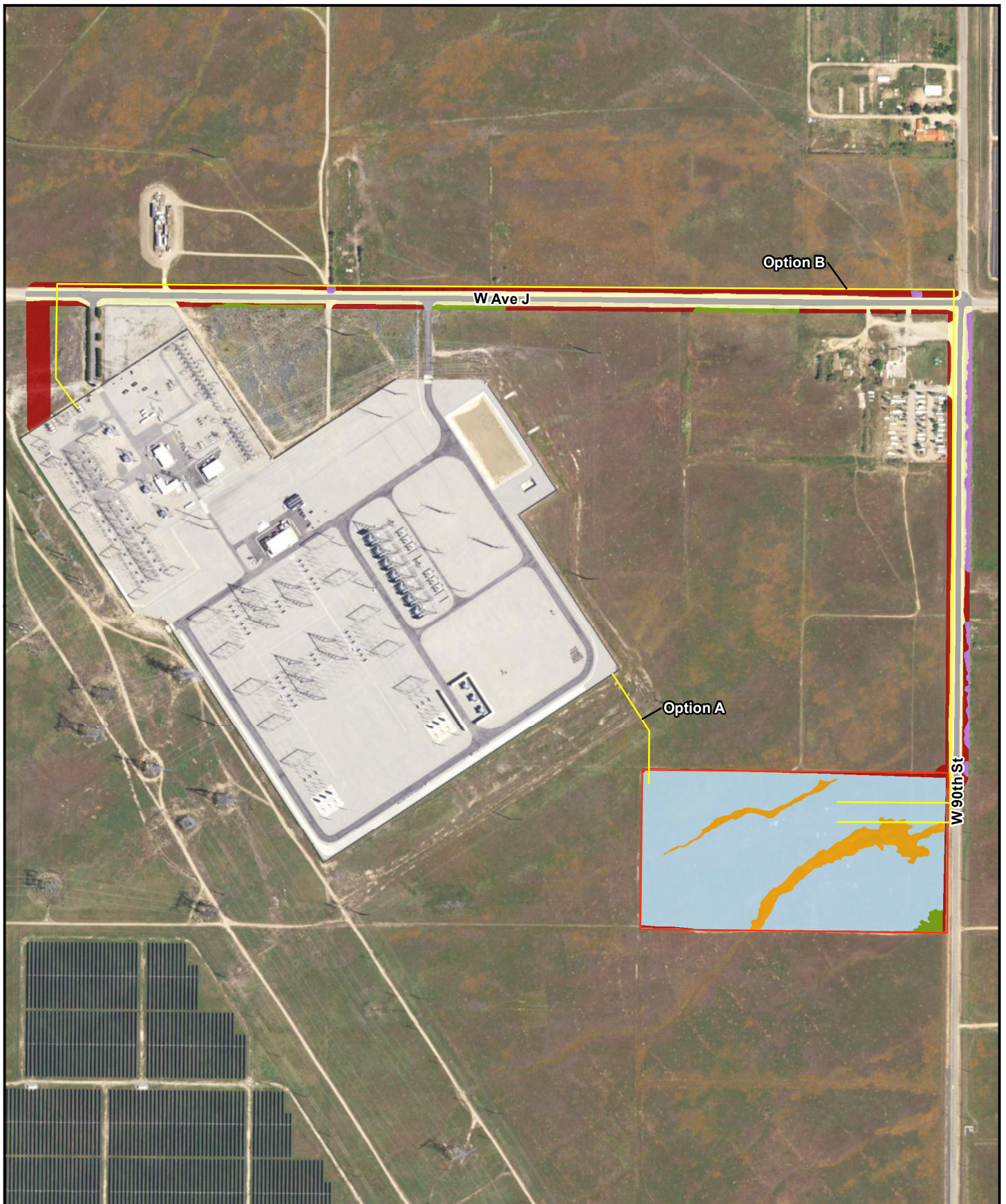


Figure 5
J90 South Energy Storage
Jurisdictional Waters Assessment



- Project Boundary — Gen-Tie Route Options
- Vegetation Communities**
- Tamarisk Thickets — Bareground
 - Developed
 - Disturbed California Poppy - Lupine Fields
 - Disturbed
 - Disturbed Rubber Rabbitbrush Scrub
 - Disturbed Fiddleneck Fields

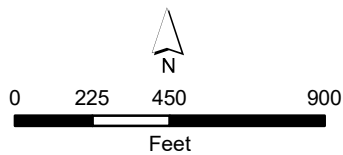


Figure 6
J90 South Energy Storage
Vegetation Communities

3.4 GENERAL PLANTS

A total of 33 plant species were observed during the surveys. Plant species observed or detected during the site survey were characteristic of the existing Survey Area conditions. No special status species were observed during the survey effort. A complete list of plants observed is provided in Appendix B.

3.5 GENERAL WILDLIFE

A total of 20 wildlife species were observed during the survey. Wildlife species observed or detected during the site survey were characteristic of the existing Survey Area conditions. Two special status species were observed during the survey. A complete list of wildlife observed is provided in Appendix C.

3.6 SPECIAL STATUS SPECIES

The following information is a list of abbreviations used to help determine the significance of biological special status resources potentially occurring on the Survey Area.

California Rare Plant Rank (CRPR)

- CRPR 1A = Plants presumed extinct in California.
- CRPR 1B = Plants rare and endangered in California and throughout their range.
- CRPR 2 = Plants rare, threatened or endangered in California but more common elsewhere in their range.
- CRPR 3 = Plants about which we need more information; a review list.
- CRPR 4 = Plants of limited distribution; a watch list.

CRPR Extensions

- 0.1 = Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
- 0.2 = Fairly endangered in California (20-80 percent occurrences threatened).
- 0.3 = Not very endangered in California (less than 20 percent of occurrences threatened).

Federal

- FE = Federally listed; Endangered
- FT = Federally listed; Threatened
- FC = Federal Candidate for listing

State

- ST = State listed; Threatened
- SE = State listed; Endangered
- RARE = State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
- SSC = California Species of Special Concern
- WL = CDFW Watch List

The following information was used to determine the significance of biological resources potentially occurring within the Survey Area. The criteria used to evaluate the potential for special status species to occur on the Survey Area are outlined in Table 3.

Table 3: Criteria for Evaluating Special Status Species Potential for Occurrence (PFO)

PFO*	CRITERIA
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the Survey Area.
Low:	Historical records for this species do not exist within the immediate vicinity (approximately 5 miles) of the Survey Area, and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate:	Either a historical record exists of the species within the immediate vicinity of the Survey Area (approximately 3 miles) and marginal habitat exists on the Survey Area, or the habitat requirements or environmental conditions associated with the species occur within the Survey Area, but no historical records exist within 5 miles of the Survey Area.
High:	Both a historical record exists of the species within the Survey Area or its immediate vicinity (approximately 1 mile), and the habitat requirements and environmental conditions associated with the species occur within the Survey Area.
Present:	Species was detected within the Survey Area at the time of the survey.

* PFO: Potential for Occurrence

3.6.1 Special Status Plant Species

Current database searches (CDFW 2022 and CNPS 2022) resulted in a list of four special status plant species documented to occur within five miles of the Survey Area. After the literature review, the reconnaissance-level survey, and focused plant survey (Chambers Group 2022a), it was determined that all four species are considered absent from the Survey Area. Factors used to determine the potential for occurrence included the quality of habitat, elevation, soil type, and the results of the reconnaissance and focused plant surveys. In addition, the location of prior CNDDDB records of occurrence was used as additional data, but because the CNDDDB is a positive-sighting database, these data were used only in support of the analysis from the previously identified factors.

The following four plant species are considered **absent** from the Survey Area due to lack of suitable habitat, the species occurs outside the site's elevation range, the species are typically found in alkaline soils which were not present on site, and/or because the survey was conducted during the appropriate blooming period when the species would have been conspicuous and was not detected:

- alkali mariposa lily (*Calochortus striatus*) – CRPR 1B.2
- Pierson's morning glory (*Calystegia peirsonii*) – 4.2
- slender mariposa lily (*Calochortus clavatus* var. *gracilis*) – 1B.2
- short joint beavertail (*Opuntia basilaris* var. *brachyclada*) – 1B.2

3.6.2 Special Status Habitats

Current database searches (CDFW 2022 and CNPS 2022) resulted in a list of one special status habitat, Valley Needlegrass Grassland, documented to occur within 5 miles of the Survey Area. After the literature review, the reconnaissance-level survey, and focused plant survey it was determined that no native needle grass species were observed, and Valley Needlegrass Grassland is considered absent from the Survey Area.

3.6.3 Special Status Wildlife

A current database search (CNDDDB 2022; USFWS 2022c) resulted in a list of 34 federal- and/or state-listed endangered or threatened, Species of Concern, or otherwise special status wildlife species that may potentially occur within the Survey Area (Figure 7: CNDDDB and USFWS Occurrences Map). After a literature review, the reconnaissance-level survey, focused burrowing owl survey (Chambers Group 2022b), and the assessment of the various habitat types within the Survey Area, it was determined that 32 special status wildlife species were considered absent from the Survey Area, and two species were present within and adjacent to the Survey Area. Factors used to determine potential for occurrence included the quality of habitat and the location of prior CNDDDB and USFWS records of occurrence.

The following 32 wildlife species are considered **absent** from the Survey Area due to lack of suitable habitat present, the species falls outside the elevation range found on the Survey Area, no known occurrences have been recorded within five miles of the Survey Area, and/or the species was not observed during focused surveys:

- tricolored blackbird (*Agelaius tricolor*) - **ST**, SSC
- southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) – WL
- northern California legless lizard (*Anniella pulchra*) – SSC
- California legless lizard (*Anniella* spp.) – SSC
- golden eagle (*Aquila chrysaetos*) – FP, WL
- California glossy snake (*Arizona elegans occidentalis*) – SSC
- Bell's sage sparrow (*Artemisiospiza belli belli*) - WL
- long-eared owl (*Asio otus*) - SSC
- burrowing owl (*Athene cunicularia*) – SSC
- vernal pool fairy shrimp (*Branchinecta lynchi*) – **FT**
- ferruginous hawk (*Buteo regalis*) - WL
- mountain plover (*Charadrius montanus*) – SSC
- northern harrier (*Circus hudsonius*) – SSC
- Townsend's big eared bat (*Corynorhinus townsendii*) – SSC
- western pond turtle (*Emys marmorata*) - SSC
- quino checkerspot butterfly (*Euphydryas editha quino*) - **FE**
- merlin (*Falco columbarius*) – WL
- unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) – **FE**, **ST**, FP
- desert tortoise (*Gopherus agassizii*) – **FT**, **ST**
- California condor (*Gymnogyps californianus*) - **FE**
- bald eagle (*Haliaeetus leucocephalus*) – **SE**, FP
- southern grasshopper mouse (*Onychomys torridus ramona*) - SSC
- Tehachapi pocket mouse (*Perognathus alticola inexpectatus*) – SSC
- coast horned lizard (*Phrynosoma blainvillii*) – SSC

- white-faced ibis (*Plegadis chihi*) – WL
- coastal California gnatcatcher (*Poliioptila californica californica*) – FT, SSC
- California red-legged frog (*Rana draytonii*) – FT, SSC
- American badger (*Taxidea taxus*) – SSC
- two-striped gartersnake (*Thamnophis hammondi*) – SSC
- Le Conte's thrasher (*Toxostoma lecontei*) – SSC
- least Bell's vireo (*Vireo bellii pusillus*) – FE, SE
- Mohave ground squirrel (*Xerospermophilus mohavensis*) – ST

The following two species were **present** adjacent to the Survey Area during the field survey:

Loggerhead shrike – SSC

The loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern (SSC). One individual was observed foraging and perching along a fence line on the south side of Avenue J, approximately 25 feet south of the proposed gen-tie line within the Survey Area during the April 13, 2022, biological reconnaissance and focused BUOW survey (Figure 8: Special Status Species Observed Map). The loggerhead shrike is a medium-sized shrike and is found in any kind of semi-open terrain with high vantage points such as wires, posts, or other high perching areas (Audubon 2022a). In the deserts of southern California, this species nests in many substrates, especially spiny/thorny shrubs like mesquite and require impaling sites for prey manipulation and storage (fence, mesquite thorns, etc.). Potential foraging opportunities are present within the Survey Area. No nests were found in the ornamental trees and Tamarisk Thickets within the gen-tie line portion of the Survey Area during the focused burrowing surveys. Suitable nesting habitat within the Project site boundary does not exist.

Swainson's hawk – ST

The Swainson's hawk (*Buteo swainsoni*) is State Threatened (ST) species. One individual was observed as flying over in a southwest direction. The flyover was noted approximately 0.54 miles northwest of the gen-tie line portion of the Survey Area during the April 13, 2022, biological reconnaissance survey (Figure 8: Special Status Species Observed Map). The Swainson's hawk is found in multiple habitats including plains, dry grasslands, and farmland (Audubon 2022b). This species has very limited breeding reported the Antelope Valley (CDFW 2006). Antelope valley Swainson's hawks are historically known to nest in Joshua Tree woodlands and foraged in grasslands and native desert scrub communities. Currently, Swainson's hawks nest in Joshua Tree woodlands, roadside ornamental trees, and trees surrounding agricultural areas (California Energy Commission 2010). Limited potential foraging opportunities are present on the Survey Area and no potential nesting sites were identified within the Survey Area for the Project. Based on the CNDDDB (CNDDDB occurrence dated 2011), a nesting pair of Swainson's hawks was identified in a cottonwood tree adjacent to an orchard approximately 2.25 miles northwest of the gen-tie line Survey Area and 3.15 miles northwest of the Project boundary. This nest was revisited in 2016 and was not found in the area. Based on the development within 1-mile of the Project (solar fields and substations), nesting and foraging opportunities are considered to be low potential to occur. No suitable nesting habitat is found within the Project boundaries. No potential nests were located along the gen-tie line portion of the Survey Area during the focused burrowing owl surveys.

3.6.4 United States Fish and Wildlife Service Critical Habitat

USFWS Critical Habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated Critical Habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated Critical Habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Designated Critical Habitat delineates all suitable habitat, occupied or not, that is essential to the survival and recovery of the species. According to the USFWS Critical Habitat WebGIS map, the Survey Area does not occur within designated Critical Habitat.

3.6.5 Wildlife Corridors

Wildlife corridors are areas that connect fragmented habitats. They serve as wildlife linkages (wildlife travel corridors) between otherwise fragmented patches of habitat caused by changes in vegetation communities, rugged terrain, and human disturbances. These linkages may be drainages, canyons, or ridgelines that provide access to foraging areas, water, breeding sites, and dispersal areas. These corridors provide cover and shelter during travel. Disturbance to wildlife corridors such as anthropogenic activity and development can cause harm to migrating species, cause species to exceed their population thresholds, and/or prevent healthy gene flow between populations.

The Survey Area is not located within a wildlife corridor. None of the proposed Project features are anticipated to be large enough to create a physical barrier to wildlife movement. The quality of habitat within the Survey Area is poor (primarily disturbed and ruderal habitat) and is surrounded by solar and substation developments. Higher quality habitat is found along the Portal Ridge Mountains approximately 2.5 miles to the south, and native habitat areas found along Willow Springs Canyon, Myrick Canyon, and the Antelope Valley California Poppy Preserve approximately 5 miles to the west/northwest.

3.7 FOCUSED SURVEYS

Results of the focused plant survey and burrowing owl surveys are provided below.

3.7.1 Focused Plant Survey

The 2022 focused plant survey was conducted by Chambers Group botanists Heather Clayton and Joanna Kipper during on May 10, 2022, to capture the blooming periods of all special status plant species with a potential to occur on the Survey Area. Site conditions (weather and time of year) were appropriate for surveying and several common species with overlapping blooming periods and genera to the targeted survey plant species were observed.

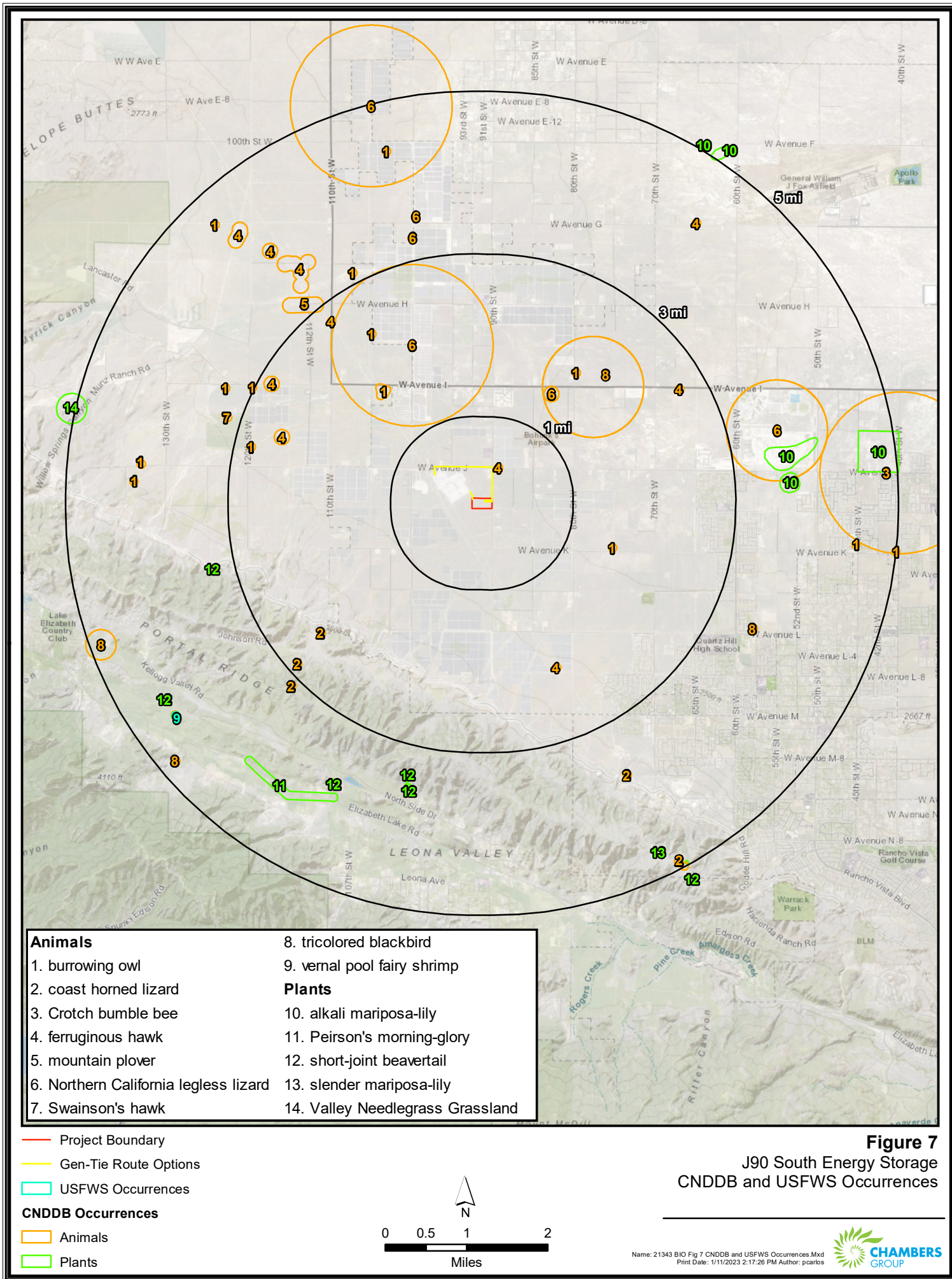
None of the four special status plant species that were identified with a potential of occurrence within the Survey Area were observed during the focused plant survey (Chambers Group 2022a). No impacts to special status plant species are anticipated.

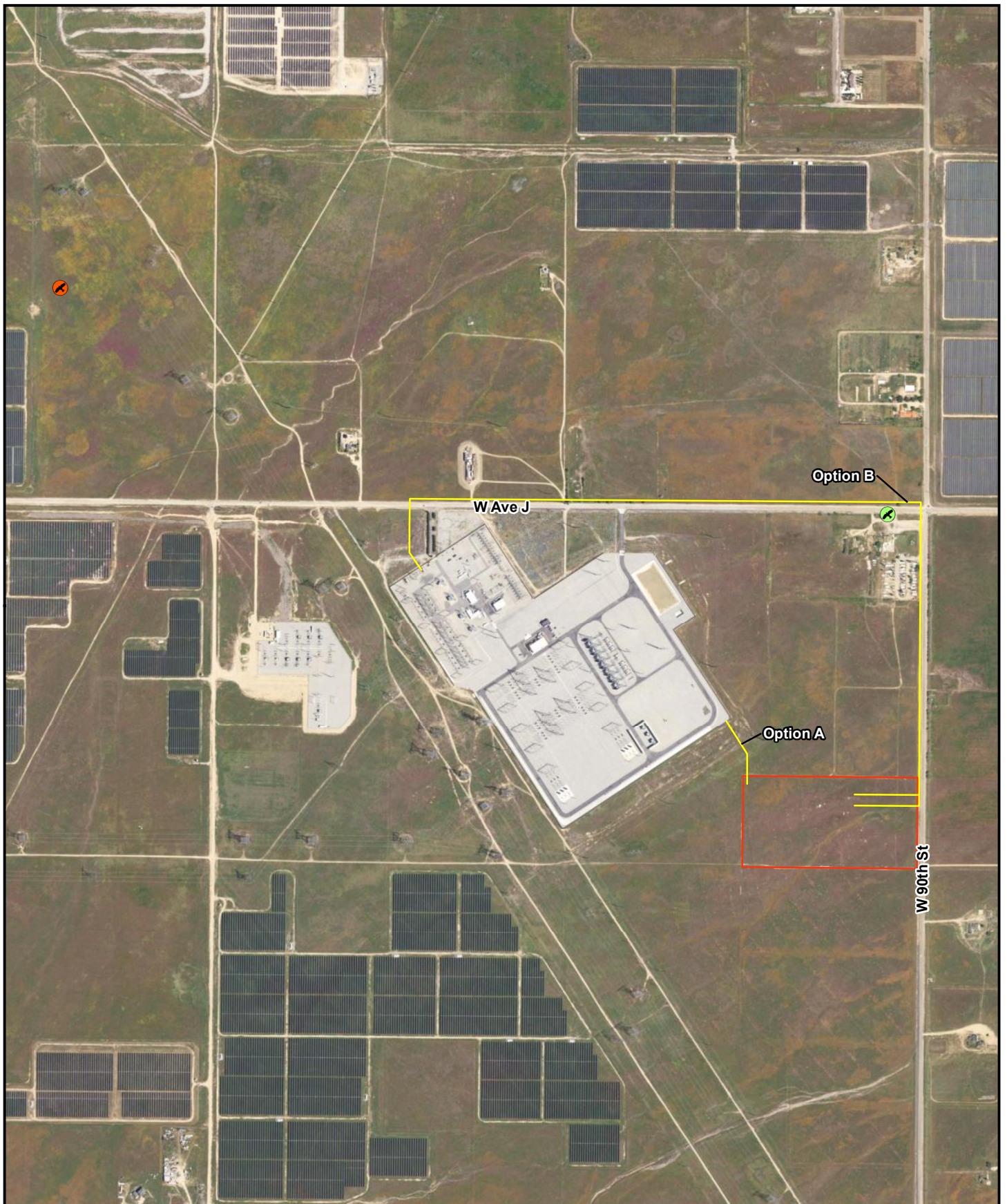
3.7.2 Focused Burrowing Owl Survey

The 2022 focused BUOW surveys were conducted on April 13, June 3, June 21, and July 13, 2022, by Chambers Group biologists Heather Franklin, Hannah Romano, Austin Burke, Paul Morrissey, and Mauricio Gomez. The survey was conducted on foot between the hours of 0700 and 1500 on April 13, 2022, between the hours of 0650 and 1300 on June 3, 2022, between the hours of 0700-1100 on June 21, 2022, and between the hours of 0700 and 1100 on July 13, 2022. Weather conditions during each survey included temperatures ranging from 39 to 89 degrees Fahrenheit, wind speeds between 0 and 24 miles per hour, with cloud cover ranging from 0 to 15 percent, and no precipitation.

No BUOWs or BUOW sign were found within the Survey Area (Chambers Group 2022b). No impacts to BUOW are anticipated.

A single great-horned owl (*Bubo virginianus*) was flushed out of the Tamarisk (*Tamarix aphylla*) Thickets located within the gen-tie line portion of the Survey Area during the focused burrowing owl surveys. Although the great-horned owl was flushed out of the tamarisk, it remained in the general vicinity of the tamarisk. No impacts to the Tamarisk Thickets located along 90th Street West are anticipated.





- Project Boundary
- Gen-Tie Route Options
- Special Status Species Observations**
- Loggerhead Shrike
 - Swainson's Hawk

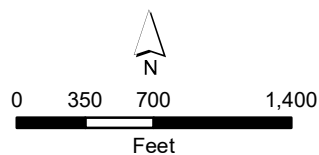


Figure 8
J90 South Energy Storage
Special Status Species Observations

SECTION 4.0 – CONCLUSIONS AND RECOMMENDATIONS

4.1 DRAINAGE FEATURES

One ephemeral drainage crosses West Avenue J, west of the western end of the gen-tie line portion of the Survey Area. The ephemeral drainage does not cross the gen-tie line portion of the Survey Area. The ephemeral drainage is less than 2 linear miles and does not appear to connect to another water feature. The drainage flows under the proposed gen-tie line through a partially buried culvert. Based on current design, impacts to this ephemeral drainage feature are not anticipated, with the proposed gen-tie line being approximately 0.21 miles away from the ephemeral drainage. If impacts are unavoidable, CDFW permit application packages for a Streambed Alteration Agreement may be required.

No riparian, wetland or vernal pool habitats were found within the Survey Area.

Several non-jurisdictional swale features were documented within the Project portion of the Survey Area. The swales are non-channelized, shallow depressions that carry surface water immediately following a rain event. The swale features appear to be isolated within the Survey Area and do not connect to any waters surrounding the area. No riparian or wetland plants were observed within the swale features or surrounding area. Therefore, impacts to RWQCB, USACE and CDFW jurisdictional waters are not anticipated.

4.2 SPECIAL STATUS PLANTS

After the literature review, the assessment of the various habitat types in the Project area, and the reconnaissance and focused plant surveys that were conducted, it was determined that all four plant species with a potential to occur are considered absent from the Survey Area. No special status plants were observed during focused surveys conducted Chambers Group in 2022 (Chambers Group 2022a). Therefore, these species are not anticipated to occur within the site and no additional surveys are required for these species.

4.2.1 Special Status Habitats

After the literature review, the reconnaissance-level survey, and focused plant survey it was determined that any form of special status habitat is absent from the Survey Area.

4.3 SPECIAL STATUS WILDLIFE

Of the 34 special status wildlife species identified in the literature review, it was determined that 32 special status wildlife species were considered absent from the Survey Area, and two were present within and adjacent to the Survey Area.

The loggerhead shrike was observed within the Survey Area and the Swainson's hawk was observed adjacent to the Survey Area during surveys conducted on April 13, 2022.

No suitable nesting habitat for the loggerhead shrike exists within the Project boundary portion of the Survey Area. Potential foraging opportunities are present within the eastern buffer of the Project boundary and along the gen-tie line portion of the Survey Area. No nests were found in the ornamental

trees and Tamarisk Thickets within the gen-tie line portion of the Survey Area during the focused burrowing owl surveys.

The Swainson's hawk, a state threatened species, was observed flying near the western end of the gen-tie line. Suitable nesting habitat is not found within the Project site portion of the Survey Area. Although Swainson's hawks are known to prefer low vegetation that support abundant prey such as grasslands or alfalfa fields, this habitat does not exist within the Project portion of the Survey Area. Suitable foraging habitat along the gen-tie line portion of the Survey Area is considered low due to the disturbed habitat that exists and the surrounding development within 1 mile of the site. Although a Swainson's hawk nest was discovered approximately 2.25 miles to the west/northwest of the Survey Area in 2011, this location was revisited in 2016 and was not found (CNDDDB 2022). Based on the *Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties* (California Energy Commission 2010), the agencies consider a nest site to be active if it was used at least once during the past five years (Swainson's hawks have high site fidelity and return year after year to the same breeding sites). More than 5 years has occurred since this location was considered active and no other locations have been identified within 5 miles of the site; therefore, associated impacts of this Project on Swainson's hawk are not anticipated to occur.

If construction activities occur during nesting season (February 1 to August 31 for passerines, and January 15 to September 15 for raptors), pre-construction surveys and biological monitoring should be conducted by a qualified biologist. The survey should occur no more than seven days prior to initiation of Project activities, and any occupied passerine and/or raptor nests occurring within or adjacent to the Project impact area should be delineated. To the maximum extent practicable, a minimum buffer zone around occupied nests should be maintained during physical ground-disturbing activities. The buffer zone should be sufficient in size to prevent impacts to the nest. Once nesting has ceased, the buffer may be removed. The qualified biologist should prepare a migratory nesting bird and raptor survey report to documents the results of pre-construction surveys and biological monitoring.

The Survey Area contains low to moderate suitable habitat for the burrowing owl. This species has been recorded within two miles of the site and suitable habitat occurs throughout the Survey Area. However, no burrowing owl or burrowing owl sign were observed during the focused surveys conducted by Chambers Group in 2022 (Chambers Group 2022b). Therefore, this species is not anticipated to occur within the site. Although no burrowing owls were observed, a single great-horned owl was observed in the Tamarisk Thickets located within the gen-tie line portion of the Survey Area, along 90th Street West.

The burrowing owl (BUOW) is considered a CDFW SSC and is one of the species covered in the CNDDDB Special Animals List (CNDDDB). The following avoidance measures for BUOW are set forth by CDFW Staff Report on Burrowing Owl Mitigation (2012). Avoidance (pre-construction) surveys shall be conducted no less than 14 days prior to initiating ground disturbance with one final survey conducted within 24 hours prior to ground disturbance for presence of BUOW or BUOW burrows located adjacent to or within the Survey Area, and to avoid negative impacts and direct take of BUOW.

Although no BUOW were observed on site, if BUOWs are identified on site during the avoidance (pre-construction) surveys, avoidance measures should be developed and implemented in compliance with CDFW Guidelines (2012). These measures would include the following:

- Avoid disturbing occupied burrows during the nesting period, from 1 February through 31 August.

- Avoid impacting burrows occupied during the non-breeding season by migratory or non-migratory resident burrowing owls.
- Avoid direct destruction of burrows through chaining (dragging a heavy chain over an area to remove shrubs), disking, cultivation, and urban, industrial, or agricultural development.
- Develop and implement a worker awareness program to increase the on-site worker's recognition of and commitment to burrowing owl protection.
- Place visible markers near burrows to ensure that farm equipment and other machinery does not collapse burrows.
- Do not fumigate, use treated bait or other means of poisoning nuisance animals in areas where burrowing owls are known or suspected to occur (e.g., sites observed with nesting owls, designated use areas).
- Restrict the use of treated grain to poison mammals to the months of January and February.

4.4 MIGRATORY BIRD TREATY ACT, AS AMENDED (16 USC 703-711)

Tamarisk Thickets, telecommunication poles, and transmissions towers are present within the gen-tie line portion of the Survey Area that have the potential to support nests. To avoid the destruction of active nests and to protect the reproductive success of birds protected by Migratory Bird Treaty Act, nesting bird surveys shall be performed prior to the scheduled construction in the proposed Project site and surrounding area during the nesting season for birds (typically February 1 through August 31) and raptors (typically January 15 to September 15).

In the event that active nests are discovered, a suitable buffer should be established around such active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No ground disturbing activities shall occur within this buffer until the qualified biologist has confirmed that breeding/nesting is complete, and the young have fledged the nest. The buffer should be maintained during physical construction activities. Once nesting activities have ceased (chicks have fledged the nest and are independent of the parent birds), the buffer may be removed.

No additional mitigation or avoidance measures are recommended for this Project.

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APPENDIX A – SITE PHOTOGRAPHS



APPENDIX A – SITE PHOTOGRAPHS



Photo 1.

Photograph taken along western boundary facing east towards 90th Street West. Site is primarily Disturbed Fiddleneck Field with high frequency of non-native annual vegetation.



Photo 2.

Photograph taken along southern border facing north.



Photo 3.

Small patch of disturbed Rubber Rabbitbrush located at the southeast corner adjacent to 90th Street West.



Photo 4.

Photograph taken facing west from northeast corner of Disturbed California Poppy – Lupine Field in foreground with Disturbed Fiddleneck Field in background.



Photo 5.

Photograph taken facing north from southeastern corner, adjacent to 90th Street West.



Photo 6.

Photograph taken facing west from eastern end of the Project site.



Photo 7.

Photograph taken facing south from eastern end of the generation-tie line portion of the Survey Area. Photo shows Tamarisk Thickets along the eastern end of 90th Street West.



Photo 8.

Photograph taken facing east along West Avenue J, just north of the Southern California Edison Antelope Substation, for the proposed generation-tie line.

APPENDIX B – PLANT SPECIES OBSERVED



APPENDIX B – PLANT SPECIES OBSERVED

Scientific Name	Common Name
ANGIOSPERMS (EUDICOTS)	
APOCYNACEAE	DOGBANE FAMILY
<i>Asclepias californica</i>	California milkweed
ASTERACEAE	SUNFLOWER FAMILY
<i>Ambrosia acanthicarpa</i>	annual bur-sage
<i>Corethrogyne filaginifolia</i>	sand-aster
<i>Ericameria nauseosa</i>	rubber rabbitbrush
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Lactuca serriola</i> *	prickly lettuce
<i>Lasthenia californica</i>	coast goldfields
<i>Lessingia glandulifera</i>	valley vinegar-weed
<i>Malacothrix glabrata</i>	desert dandelion
<i>Stephanomeria pauciflora</i>	wire lettuce
<i>Stephanomeria</i> sp.	wreathplant
<i>Uropappus lindleyi</i>	silver puff
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia menziesii</i>	common fiddleneck
<i>Amsinckia tessellata</i>	devil's lettuce
<i>Cryptantha</i> sp.	cryptantha
<i>Pectocarya</i> sp.	pectocarya
BRASSICACEAE	MUSTARD FAMILY
<i>Hirschfeldia incana</i> *	shortpod mustard
<i>Lepidium nitidum</i>	shining peppergrass
<i>Sisymbrium altissimum</i> *	tumble mustard
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola australis</i> *	Russian-thistle
EUPHORBIACEAE	SPURGE FAMILY
<i>Croton setiger</i>	turkey-mullein
<i>Euphorbia albomarginata</i>	rattlesnake sandmat
FABACEAE	LEGUME FAMILY
<i>Lupinus bicolor</i>	miniature lupine
<i>Lupinus microcarpus</i> var. <i>densiflorus</i>	chick lupine
GERANIACEAE	GERANIUM FAMILY
<i>Erodium cicutarium</i> *	red-stemmed filaree
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia californica</i>	California poppy
POLEMONIACEAE	PHLOX FAMILY
<i>Gilia angelensis</i>	angel gilia
ANGIOSPERMS (MONOCOTS)	

Scientific Name	Common Name
POACEAE	GRASS FAMILY
<i>Avena barbata</i> *	slender wild oat
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome
<i>Bromus tectorum</i> *	cheat grass
<i>Festuca myuros</i> *	fescue
<i>Schismus barbatus</i> *	Mediterranean schismus
*Non-Native Species	

APPENDIX C – WILDLIFE SPECIES OBSERVED



APPENDIX C – WILDLIFE SPECIES OBSERVED

Scientific Name	Common Name
CLASS INSECTA	INSECTS
PIERIDAE	WHITES & SULPHURS
<i>Pieris rapae</i>	cabbage white
<i>Danaus plexippus</i>	monarch butterfly
<i>Vanessa cardui</i>	painted lady
CLASS REPTILIA	REPTILES
PHRYNOSOMATIDAE	ZEBRA-TAILED, EARLESS, FRINGE-TOED, SPINY, TREE, SIDE-BLOTCHED, AND HORNED LIZARDS
<i>Uta stansburiana</i>	side-blotched lizard
COLUBRIDAE	COLUBRID SNAKES
<i>Pituophis catenifer</i>	gopher snake
CROTALIDAE	PIT VIPERS
<i>Crotalus helleri</i>	southern pacific rattlesnake
CLASS AVES	BIRDS
ARDEIDAE	HERONS, BITTERNS
<i>Ardea alba</i>	great egret
ACCIPITRIDAE	HAWKS, KITES, EAGLES
<i>Buteo swainsoni</i>	Swainson's hawk
FALCONIDAE	FALCONS
<i>Falco sparverius</i>	American kestrel
COLUMBIDAE	PIGEONS & DOVES
<i>Columba livia</i>	rock pigeon
<i>Zenaida macroura</i>	mourning dove
STRIGIDAE	TRUE OWLS
<i>Bubo virginianus</i>	great horned owl
ALAUDIDAE	LARKS
<i>Eremophila alpestris</i>	horned lark
CORVIDAE	JAYS & CROWS
<i>Corvus corax</i>	common raven
LANIIDAE	SHRIKES
<i>Lanius ludovicianus</i>	loggerhead shrike
PARULIDAE	WOOD WARBLERS
<i>Setophaga coronata</i>	yellow-rumped warbler
ICTERIDAE	BLACKBIRDS
<i>Sturnella neglecta</i>	western meadowlark
EMBERIZIDAE	EMBERIZIDS
<i>Passerculus sandwichensis</i>	savannah sparrow
<i>Zonotrichia leucophrys</i>	white-crowned sparrow
FRINGILLIDAE	FINCHES
<i>Carpodacus mexicanus</i>	house finch

APPENDIX D – FOCUSED PLANT SURVEY REPORT





October 10, 2022
21343

J90 ESS, LLC
11455 El Camino Real, Suite 160
San Diego, CA 92130

SUBJECT: 2022 FOCUSED PLANT SURVEY RESULTS FOR THE PROPOSED J90 SOUTH ENERGY STORAGE PROJECT, CITY OF LANCASTER, CA.

Dear Terra-Gen Power,

This letter report summarizes the findings of the focused surveys for special status plant species conducted in 2022 by Chambers Group, Inc. (Chambers Group) for the proposed impact areas associated with the J90 South Energy Storage Project (Project) in the City of Lancaster, California.

PROJECT LOCATION

The approximately 19.6-acre Project site is located within a rural portion of Lancaster primarily consisting of agricultural and commercial (i.e., utility) development with infrequent residential lots in the general vicinity. The project site is located south of Avenue J and north of Avenue K within Assessor's Parcel Numbers (APNs) 323-034-011 and 3323-034-010, and within the United States Geological Survey (USGS) *Del Sur*, California 7.5-minute topographic quadrangle (Figure 1 and 2). The Project site is undeveloped with adjacent open space to the north, west, and south. Dirt roads parallel the site on the north, west, and south. The eastern boundary parallels paved 90th Street West to the east. The elevation range at the Project site is approximately 2,430 feet above mean sea level (amsl).

EXISTING CONDITIONS

The Project site is dominated by approximately 17.18 acres of low growing non-native herbaceous annual grasslands (i.e., Disturbed California Poppy – Lupine Fields and Disturbed Fiddleneck Fields). A small patch (0.16 acre) of Disturbed Rubber Rabbitbrush Scrub is located on the southeastern corner of the Project site. The Project site is containing primarily flat terrain with soils identified as well drained, sandy loam derived from granite (USDA 2022). Non-native vegetation cover is estimated at 90 percent. Evidence of off-road vehicle use, and illegal dumping is present intermittently throughout the Project site.

SURVEY AREA

The Survey Area for the focused plant survey included the Project site portion (the approximately 19.6-acre battery energy storage facility), the proposed gen-tie line portion, and respective buffers. An additional 100-foot buffer for the proposed Project site portion was included in the Survey Area for special status plants and vegetation communities for a total of approximately 30 acres. An additional 25-foot buffer from the edge of

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the existing roads (West Avenue J and 90th Street West) for the proposed gen-tie line portion was included in the Survey Area for special status plants and vegetation communities for a total of approximately 14.89 acres.

SPECIAL STATUS PLANT DESIGNATIONS

The following information is a list of abbreviations used to help determine the significance of biological special status resources potentially occurring on in the Survey Area.

California Rare Plant Rank (CRPR)

- CRPR 1A = Plants presumed extinct in California.
- CRPR 1B = Plants rare and endangered in California and throughout their range.
- CRPR 2 = Plants rare, threatened or endangered in California but more common elsewhere in their range.
- CRPR 3 = Plants about which we need more information, a review list.
- CRPR 4 = Plants of limited distribution; a watch list.

CRPR Extensions

- 0.1 = Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
- 0.2 = Fairly endangered in California (20-80 percent occurrences threatened).
- 0.3 = Not very endangered in California (less than 20 percent of occurrences threatened).

Federal

- FE = Federally listed; Endangered
- FT = Federally listed; Threatened
- FC = Federal Candidate for listing

State

- ST = State listed; Threatened
- SE = State listed; Endangered
- RARE = State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
- SSC = California Species of Special Concern
- WL = CDFW Watch List

SPECIAL STATUS PLANTS SURVEYED

A database search and literature review to identify special status plant species with potential to occur on site was conducted (CDFW 2022 and CNPS 2022). This search resulted in a list of four CNPS California Rare Plant Ranks (CRPR) special status plant species with a potential to occur within five miles of the Survey Area. These species are listed by the CNPS as rare, threatened, or endangered in California and given one of six CNPS ranks in an effort to categorize degrees of concern. Only those species with a CRPR of 1 or 2 are afforded special

protection under the California Environmental Quality Act (CEQA), but incidental observations of CRPR 3 and 4 species would also be included in this report. No federal- or State-endangered or threatened species occurrences were documented within 5 miles of the Survey Area.

Species surveyed for during the spring focused plant survey included:

- alkali mariposa lily (*Calochortus striatus*) – CRPR 1B.2
- Pierson’s morning glory (*Calystegia peirsonii*) – CRPR 4.2
- slender mariposa lily (*Calochortus clavatus* var. *gracilis*) – CRPR 1B.2
- short joint beavertail (*Opuntia basilaris* var. *brachyclada*) – CRPR 1B.2

METHODS

The 2022 focused plant survey was conducted on May 10, 2022, by Chambers Group botanists Heather Clayton and Joanna Kipper during spring to capture the blooming periods of all special status plant species with a potential to occur on the Survey Area. Chambers Group botanists conducted the surveys on foot throughout the Survey Area. An additional 100-foot buffer was surveyed within suitable habitat surrounding the Project site portion of the Survey Area. Survey methods are consistent with protocols set forth by the California Native Plant Society (CNPS 2001), the California Department of Fish and Wildlife (CDFW 2018), and the United States Fish and Wildlife Service (USFWS 2000).

If any one of the targeted plant species or any other special status species were observed during the surveys, botanists would record the location using Global Positioning System (GPS) technology. Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustrations in *The Jepson Manual, Vascular Plants of California, Second Edition* (Baldwin et al. 2012) or other desert plant field guides. Plant nomenclature follows that of Baldwin et al. (2012).

RESULTS

Thirty-three plant species were documented within the Survey Area (22 native and 11 non-native plant species). However, none of the four special status plant species that were identified with a potential for occurrence within the Survey Area were observed during the spring survey and are therefore presumed absent from the Survey Area. Factors used to determine the potential for occurrence included the quality of habitat, elevation, soil type, and observations made during the survey. Site conditions (weather and time of year) were appropriate for surveying and several common species with overlapping blooming periods and genera to the targeted survey plant species were observed including angel gilia (*Gilia angelensis*), California poppy (*Eschscholzia californica*), chick lupine (*Lupinus microcarpus* var. *densiflorus*), and silver puffs (*Uropappus lindleyi*). In addition, the location of prior California Natural Diversity Database (CNDDDB) records of occurrence was used as additional data, but because the CNDDDB is a positive-sighting database, these data were used only in support of the analysis from the previously identified factors. Species specific evaluations for absence determinations are described below.

Alkali Mariposa Lily (*Calochortus striatus*) – CRPR 1B.2

Alkali mariposa lily is a CRPR 1B.2 species. This bulbiferous herb flowers between April and June in alkaline meadows, moist creosote-bush scrub, chaparral, and wetland-riparian habitats from 230 – 5,235 feet amsl.

Many historical occurrences have been lost to urbanization. Known ranges include Kern, Inyo, Los Angeles, San Bernardino, and Tulare counties (CNPS 2022).

Although there are 3 documented occurrences within 5 miles of the Survey Area from 1998 to 2009 (CDFW 2022), the site does not contain suitable habitat for this species. The only shrub habitat present on site is Disturbed Rubber Rabbitbrush Scrub which is not known to qualify as alkaline or wetland habitat. Additionally, this species was not detected during the focused plant survey conducted during the blooming period for this species. Therefore, this species is presumed absent from the Survey Area.

Pierson's morning glory (*Calystegia peirsonii*) – CRPR 4.2

Pierson's morning glory is a CRPR 4.2 species. This perennial rhizomatous herb flowers between May and June and occurs along rocky slopes at elevations between 100 to 4,900 feet amsl within chaparral, coastal scrub, chenopod scrub, yellow pine forest, valley and foothill grassland, and foothill woodland habitats. It is limited in distribution in California with only a few occurrences in southern Kern County and mountainous areas of Los Angeles County (i.e., within and adjacent to the Angeles National Forest) and is threatened by non-native plant species and urban development (CNPS 2022).

Although there was one historical occurrence documented in 1982 within 5 miles of the Survey Area (CDFW 2022), suitable habitat is not present on site. The site is below the elevation range for this species at 2,400 feet and does not contain rocky chaparral, scrub, or woodland habitat. Additionally, this species was not detected during the focused plant survey during the blooming period for this species. Therefore, this species is presumed absent from the Survey Area.

Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) – CRPR 1B.2

Slender mariposa lily is a CRPR 1B.2 species. This bulbiferous herb flowers between May and June and grows in shaded foothill canyons of chaparral, coastal scrub, and valley and foothill grasslands at elevations from 1,200 to 3,300 feet amsl. The known range includes Los Angeles (primarily within and adjacent to the Angeles National Forest) and Ventura counties and is threatened by non-native plant species and urban development (CNPS 2022).

Only a single occurrence was documented in 2010 within 5 miles of the Survey Area. Although this species may be found in grassland habitats within the Survey Area's elevation at approximately 2,400 feet amsl, herbaceous vegetation communities on site are highly disturbed. Additionally, this species was not detected during the focused plant survey during the blooming period for this species. Therefore, this species is presumed absent from the Survey Area.

Short joint beavertail (*Opuntia basilaris* var. *brachyclada*) – CRPR 1B.2

Short joint beavertail is a CRPR 1B.2 stem succulent that flowers from April through June. It occurs within chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland habitats at elevations from 1,395 to 5,900 feet amsl. This species has limited distribution in California known to occur in Los Angeles and San Bernardino counties and is threatened by urbanization, mining, horticultural collecting, grazing and vehicles, as well as possibly powerline construction and non-native plant species (CNPS 2022).

There were 5 occurrences documented from 2008 to 2017 within 5 miles of the Survey Area, however suitable habitat is limited at the Project site portion of the Survey Area. This species was not detected during the focused plant survey conducted when this species would have been conspicuous and in bloom. Therefore, this species is presumed absent from the Survey Area.

CONCLUSIONS

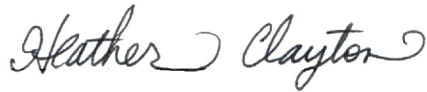
The four special status plant species are considered absent from the Survey Area based on the database search, lack of observations during focused surveys conducted within the appropriate blooming periods for each species, phenological characteristics and habitat requirements of each species, and through the assessment of the various habitat types observed within the Project area.

As no special status plant species were observed during the 2022 focused plant spring surveys within the Project limits or survey buffer areas, no mitigation for special status plant species is recommended or required at this time.

Please feel free to contact me at (949) 261-5414 extension 7241 or E-mail me at hclayton@chambersgroupinc.com if you have any questions.

Sincerely,

CHAMBERS GROUP, INC.



Heather Clayton
Senior Botanist

FIGURES AND ATTACHMENTS

Figure 1 – Project Location and Vicinity Map

Figure 2 – Vegetation Communities Map

Attachment 1 – Plant Species Observed

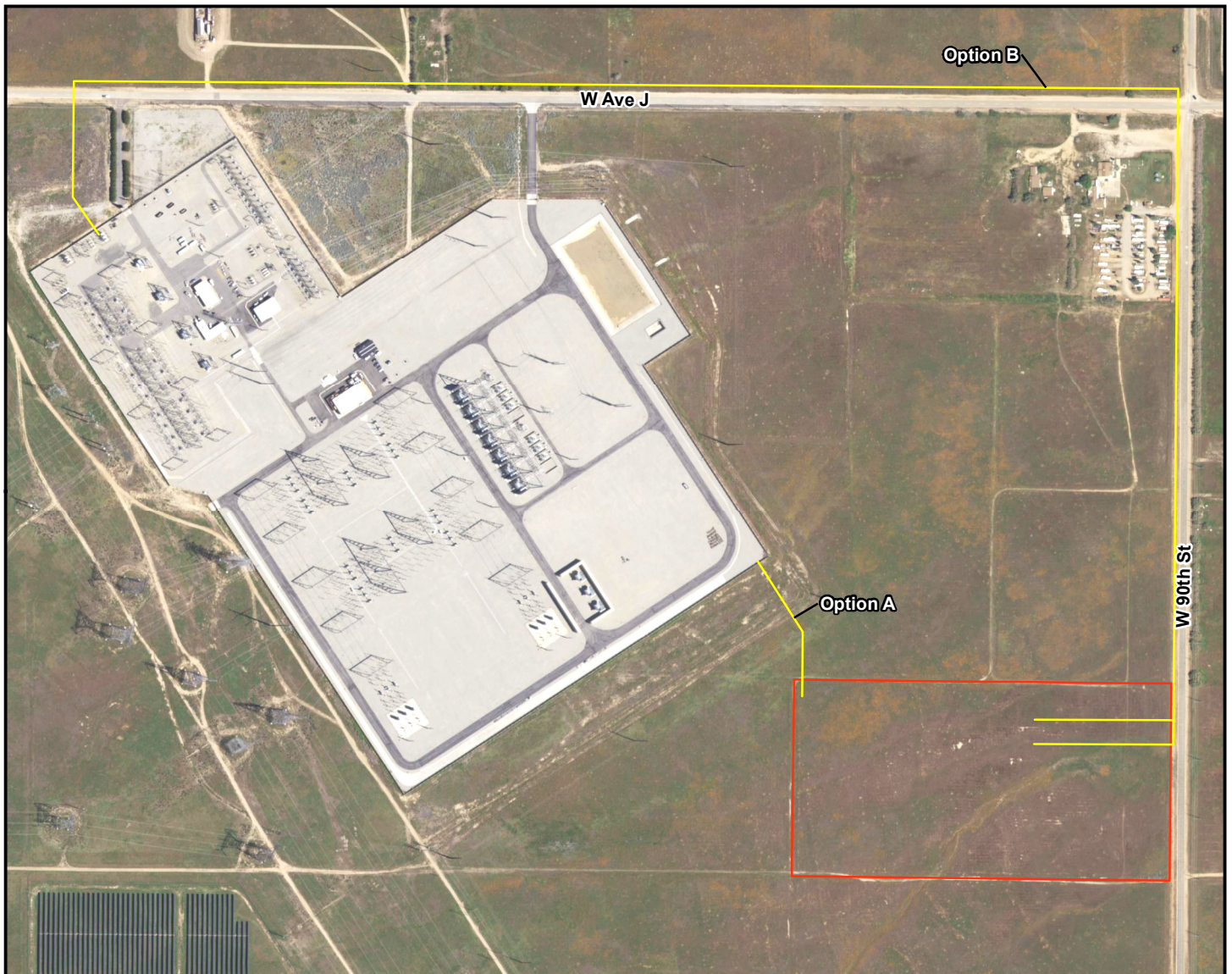
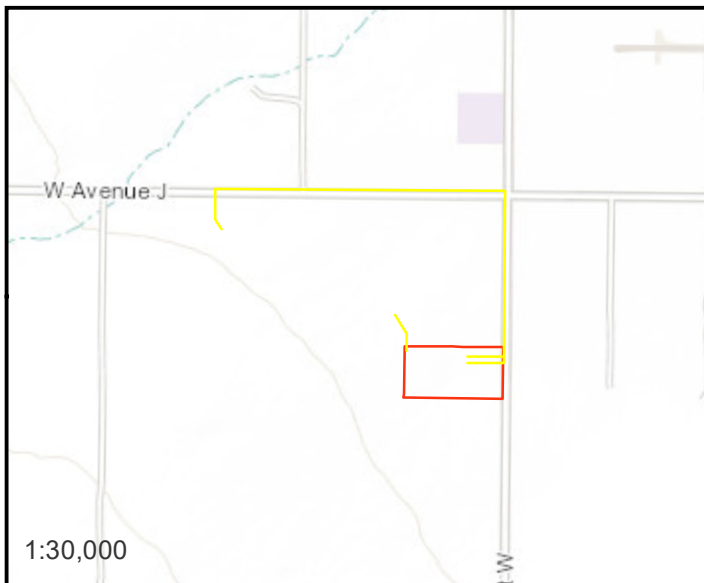
Attachment 2 – Site Photographs

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FIGURE 1 – PROJECT LOCATION AND VICINITY MAP





- Project Boundary
- Gen-Tie Route Options

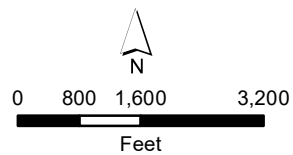
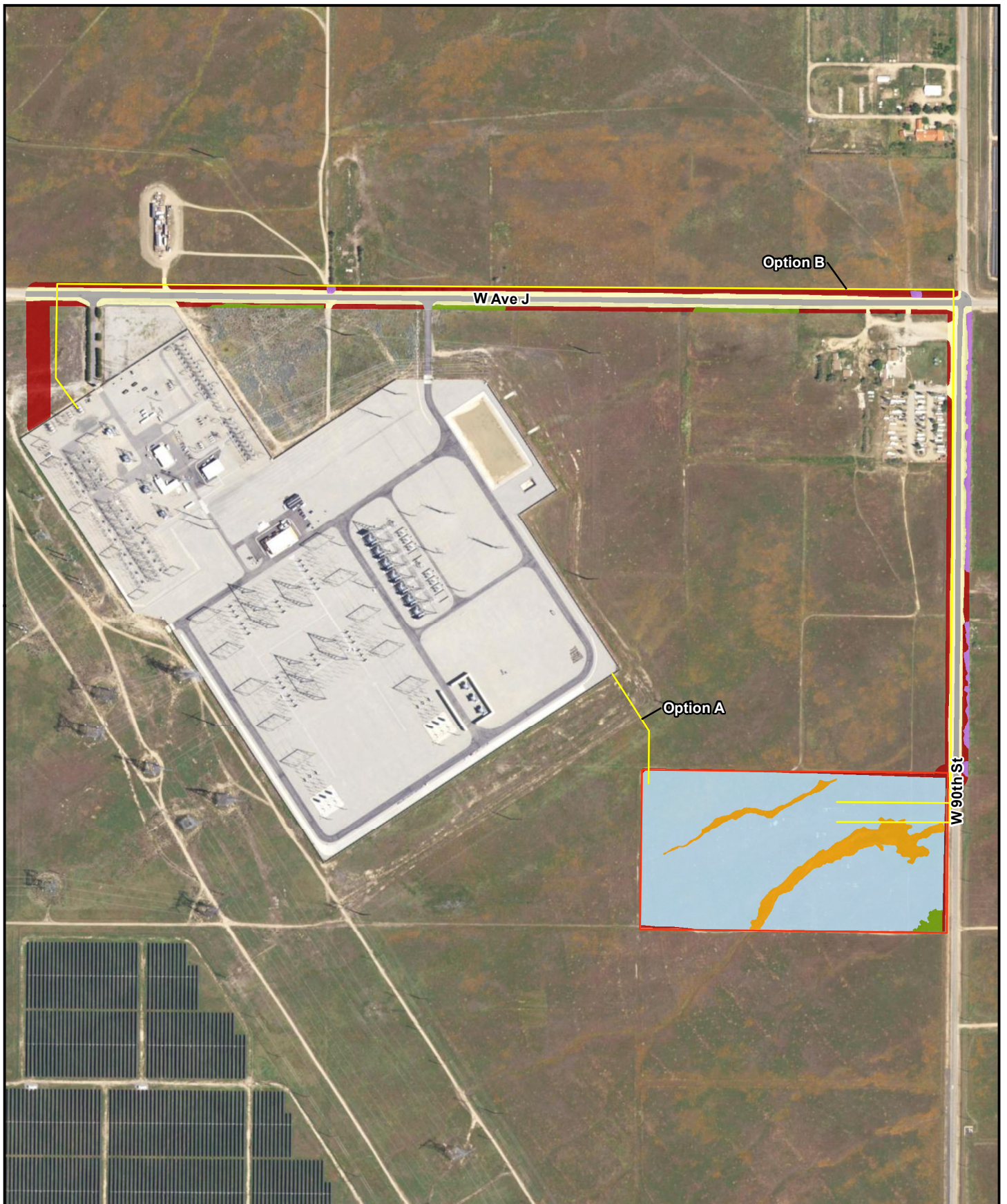


Figure 1
J90 South Energy Storage
Project Location and Vicinity

FIGURE 2 – VEGETATION COMMUNITIES MAP





- Project Boundary — Gen-Tie Route Options
- Vegetation Communities**
- Tamarisk Thickets — Bareground
 - Developed
 - Disturbed California Poppy - Lupine Fields
 - Disturbed
 - Disturbed Rubber Rabbitbrush Scrub
 - Disturbed Fiddleneck Fields

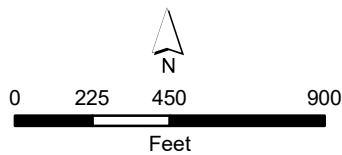


Figure 2
J90 South Energy Storage
Vegetation Communities

ATTACHMENT 1 – PLANT SPECIES OBSERVED



Attachment 1 – Plant Species Observed

Scientific Name	Common Name
ANGIOSPERMS (EUDICOTS)	
APOCYNACEAE	DOGBANE FAMILY
<i>Asclepias californica</i>	California milkweed
ASTERACEAE	SUNFLOWER FAMILY
<i>Ambrosia acanthicarpa</i>	annual bur-sage
<i>Corethrogyne filaginifolia</i>	sand-aster
<i>Ericameria nauseosa</i>	rubber rabbitbrush
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Lactuca serriola</i> *	prickly lettuce
<i>Lasthenia californica</i>	coast goldfields
<i>Lessingia glandulifera</i>	valley vinegar-weed
<i>Malacothrix glabrata</i>	desert dandelion
<i>Stephanomeria pauciflora</i>	wire lettuce
<i>Stephanomeria</i> sp.	wreathplant
<i>Uropappus lindleyi</i>	silver puff
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia menziesii</i>	common fiddleneck
<i>Amsinckia tessellata</i>	devil's lettuce
<i>Cryptantha</i> sp.	cryptantha
<i>Pectocarya</i> sp.	pectocarya
BRASSICACEAE	MUSTARD FAMILY
<i>Hirschfeldia incana</i> *	Shortpod mustard
<i>Lepidium nitidum</i>	shining peppergrass
<i>Sisymbrium altissimum</i> *	tumble mustard
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola australis</i> *	Russian-thistle
EUPHORBIACEAE	SPURGE FAMILY
<i>Croton setiger</i>	turkey-mullein
<i>Euphorbia albomarginata</i>	rattlesnake sandmat
FABACEAE	LEGUME FAMILY
<i>Lupinus bicolor</i>	miniature lupine
<i>Lupinus microcarpus</i> var. <i>densiflorus</i>	chick lupine
GERANIACEAE	GERANIUM FAMILY
<i>Erodium cicutarium</i> *	red-stemmed filaree
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia californica</i>	California poppy
POLEMONIACEAE	PHLOX FAMILY
<i>Gilia angelensis</i>	angel gilia

Scientific Name	Common Name
ANGIOSPERMS (MONOCOTS)	
POACEAE	GRASS FAMILY
<i>Avena barbata</i> *	slender wild oat
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome
<i>Bromus tectorum</i> *	cheat grass
<i>Festuca myuros</i> *	fescue
<i>Schismus barbatus</i> *	Mediterranean schismus
*Non-Native Species	

ATTACHMENT 2 – SITE PHOTOGRAPHS



Attachment 2 – Site Photographs



Photo 1.

Photograph taken along western boundary facing east towards 90th Street West. Project site portion is primarily Disturbed Fiddleneck Field with high frequency of non-native annual vegetation.



Photo 2.

Photograph taken along southern border facing north.



Photo 3.

Small patch of disturbed Rubber Rabbit Brush located at the southeast corner adjacent to 90th Street West.



Photo 4.

Photograph taken facing west from northeast corner of Disturbed California Poppy – Lupine Field in foreground with Disturbed Fiddleneck Field in the background.

APPENDIX E – BURROWING OWL FOCUSED SURVEY REPORT



**BURROWING OWL FOCUSED SURVEY
REPORT FOR THE J90 SOUTH ENERGY
STORAGE PROJECT
CITY OF LANCASTER, CALIFORNIA**

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October 2022

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SECTION 1.0 – INTRODUCTION

1.1 SUMMARY

Chambers Group, Inc. (Chambers Group) was retained by J90 ESS, LLC (Applicant) to conduct a focused burrowing owl (*Athene cunicularia*: BUOW) survey for the proposed J90 South Energy Storage Project (Project) in the City of Lancaster, within Los Angeles County, California. The Survey Area for this Project included the Project portion (the approximate 19.6-acre battery energy storage facility), the proposed generation-tie (gen-tie) line portion, and the 150-meter (500-foot) BUOW survey buffer totaling approximately 218 acres.

No BUOWs or BUOW sign were found within the Survey Area. No impacts to BUOW are anticipated.

The burrowing owl (BUOW) is considered a California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) and is one of the species covered in the California Natural Diversity Database Special Animals List (CNDDDB 2021). The following avoidance measures for BUOW are set forth by California CDFW Staff Report on Burrowing Owl Mitigation (CDGW 2012). Avoidance (pre-construction) surveys shall be conducted no less than 14 days prior to initiating ground disturbance with one final survey conducted within 24 hours prior to ground disturbance for presence of BUOW or BUOW burrows located adjacent to or within the Survey Area, and to avoid negative impacts and direct take of BUOW.

Although no BUOW were observed on site, if BUOWs are identified on site during the avoidance (pre-construction) surveys, avoidance measures will be developed and implemented in compliance with CDFW Staff Report on Burrowing Owl Mitigation (2012).

To minimize potential impacts to BUOW and nesting birds protected under the Migratory Bird Treaty Act (MBTA), construction activities should take place outside of nesting season (typically February 1 through August 31 for passerines and typically January 15 to September 15 for raptors), to the greatest extent practicable. If construction activities occur during nesting season, pre-construction surveys and biological monitoring (as needed) should be conducted.

1.2 PROJECT OVERVIEW

The Applicant proposes to construct, own, and operate the J90 South Energy Storage Project (Project), a battery energy storage facility capable of delivering up to 400 megawatts (MW) of energy storage capacity and associated ancillary services into the California electric grid. The Project will comprise battery modules installed in racks housed in purpose-built outdoor Battery Energy Storage System (BESS) enclosures, associated equipment, a project substation, and a generation tie-line (gen-tie) connecting the Project to the adjacent existing Southern California Edison (SCE) Antelope Substation. Two possible routes for the gen-tie are proposed as Options A and B. Option A will run northwest from the western boundary of the Project site for approximately .1 mile (454 feet) and onto SCE's existing substation property and into a bay position designated by SCE. Option B will head north along the west side of 90th Street, then west along the south side of W Avenue J for a total of approximately 1.25 miles and onto SCE's existing substation property and to a bay position designated by SCE. The portions of the line adjacent to the right-of-way are proposed within areas that include franchise rights for electrical transmission infrastructure.

The Project is proposed within a 19.59-acre area comprising two parcels (Assessor Parcel Number [APN] 3203-034-010, 9.28 acres; and APN 3203-034-011, 10.31 acres) in the City of Lancaster. The Project is

located within the California Independent Service Operator (CAISO) Los Angeles Basin Local Capacity Resource Area and will be charged from the CAISO grid via the Project's interconnection to the Antelope Substation. Energy stored in the Project will then be discharged into the grid when the energy is needed, providing important electrical reliability services to the local area.

The Project will be monitored and operated remotely 24 hours per day, 7 days per week from an off-site control center with no permanent on-site operations and maintenance personnel. The Project will include a small office and storage structure equipped with restroom facilities for temporary operations and maintenance (O&M) personnel use. Operating staff, typically in crews of two to four staff members, will visit the site on an approximately bi-weekly basis as needed for project maintenance. The site will be fully fenced and will not be open to the public.

1.3 PROJECT SITE AND LOCATION

The approximately 19.6-acre Project site is located on two parcels, APNs 3203-034-010 and 3203-034-011 measuring 9.28 and 10.31 acres respectively, along 90th Street West near the Del Sur neighborhood in the City of Lancaster (City), Los Angeles County, California (Figure 1: Project Location and Vicinity Map). The Del Sur area is characterized by its minimal development and rural character. Unincorporated Antelope Valley (under the jurisdiction of the County of Los Angeles) is located to the west, north and south, with urbanized Lancaster to the east. The Project site centroid is 34.683361°N, 118.291653°W, on the *Del Sur*, California U.S. Geological Survey (USGS) 7.5-minute quadrangle (Township 07 North, Range 13 West, Section 19, SMB Meridian). The Project site is bordered to the east by 90th Street West. West Avenue J is located 0.46 miles north and West Avenue K is located 0.56 miles south of the Project site. Areas surrounding both West Avenue J and West Avenue K are underdeveloped and classified by the rural character. High voltage powerlines are located approximately 1,000 feet southwest of the Project site, which connect with SCE's Antelope Substation, located less than 500 feet northwest of the Project site. The elevation range at the Project site is approximately 2,430 feet above mean sea level (amsl).

The Project site currently consists of an undeveloped grassy lot and dirt access road. Land bordering the north and south of the site are similarly undeveloped. The City's General Plan designates land use within the Project site as Non-Urban Residential. According to the City's Zoning Ordinance, the Project would be likely classified as a "electric distribution substation", which is defined as "a facility that contains an assembly of equipment that is part of a system for the distribution of electric power, where electric energy is received at a sub-transmission voltage and transformed to a lower voltage for distribution for general consumer use" (Title 17, Chapter 17.04.240). Furthermore, the Project site is zoned RR-2.5 Rural Residential. Electric distribution substations are an allowable use within the Project site with issuance of a Conditional Use Permit (CUP) for parcels zoned for rural residential uses.

The Project site is characterized by the California Department of Conservation as "Grazing Land" and does not include Prime Farmland, Farmland of Statewide Importance, or Farmland of Local Importance. Surrounding the Project site there is land designated as Grazing Land and Urban/Built up land. However, there is no Prime Farmland or Farmland of Statewide Importance in the vicinity of the Project site. The closest land designated as Prime Farmland is located approximately 1.4 miles to the north of the Project site. There are no Williamson Act lands within the City. Additionally, no forested land exists in the area, as the Project site is surrounded by roads and undeveloped high desert.

EXISTING CONDITIONS

The Project site is dominated by approximately 17.18 acres of low growing non-native herbaceous annual grasslands (i.e., Disturbed California Poppy – Lupine Fields and Disturbed Fiddleneck Fields). A small patch (0.16 acre) of Disturbed Rubber Rabbitbrush Scrub is located on the southeastern corner of the Project site. The Project site is containing primarily flat terrain with soils identified as well drained, sandy loam derived from granite (USDA 2022). Non-native vegetation cover is estimated at 90 percent. Evidence of off-road vehicle use, and illegal dumping is present intermittently throughout the Project site.

SURVEY AREA

The Survey Area for the focused burrowing owl surveys included the Project site portion (the approximately 19.6-acre battery energy storage facility), the proposed gen-tie line portion, and an additional 150-meter (500-foot buffer) around suitable burrowing owl habitat for the Project site portion and the proposed gen-tie line portion, for a total of approximately 218 acres.

SECTION 2.0 – METHODS

2.1 BURROWING OWL

Focused BUOW surveys were conducted throughout suitable habitat during the BUOW breeding season (March 1 to August 31) by Chambers Group biologists. The surveys were conducted within the Survey Area which included the Project site portion, the gen-tie line portion, and a 150-meter (500-foot) buffer zone for the Project site portion and the proposed gen-tie line portion in accordance with protocol set forth by CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012).

The surveys were conducted to determine the presence or absence of any BUOW, occupied burrows, potential burrows, areas where burrows are concentrated, BUOW sign (scat, burrows, carcasses, courtship rings, drinking depressions, etc.) within the Survey Area. The survey was conducted over the entire Survey Area using approximately 25- to 30-meter transects to achieve 100 percent coverage. Additionally, the 150-meter (500-foot) buffer zone was surveyed where habitat was present using 25- to 30-meter transects to account for any BUOW burrows or foraging habitat that may exist adjacent to the Survey Area. All sign of BUOW activity, locations of any BUOWs, and all wildlife and sensitive species observed (visual, vocalizations, etc.) during the focused BUOW surveys were documented and their locations were mapped using Global Positioning System (GPS) technology (ESRI ArcGIS Collector).

SECTION 3.0 – RESULTS

Focused BUOW surveys were conducted on April 13, June 3, June 21, and July 13, 2022, by Chambers Group biologists Heather Franklin, Hannah Romano, Austin Burke, Paul Morrissey, and Mauricio Gomez. The survey was conducted on foot between the hours of 0700 and 1500 on April 13, 2022, between the hours of 0650 and 1300 on June 3, 2022, between the hours of 0700-1100 on June 21, 2022, and between the hours of 0700 and 1100 on July 13, 2022. Weather conditions during each survey included temperatures ranging from 39 to 89 degrees Fahrenheit, wind speeds between 0 and 24 miles per hour, with cloud cover ranging from 0 to 15 percent, and no precipitation. Representative site photos taken depicting current site conditions are included in Appendix A: Site Photographs. A summary of the burrowing owl surveys is shown in Table 3-1.

Table 3-1: Summary of Burrowing Owl Surveys

Survey Date	Biologists	Time Start/End	Temperature (°F) Start/End	Wind Speed (mph) Start/End	% Cloud Cover Start/End	Precipitation / Fog
Survey 1						
April 13, 2022	A. Burke H. Romano	0700/1500	39/66	20/24	0/0	None
Survey 2						
June 3, 2022	P. Morrissey M. Gomez	0650/1300	69/85	5-10/10-15	15/5	None
Survey 3						
June 21, 2022	H. Franklin M. Gomez	0700/1100	60/89	0/6-8	0/5	None
Survey 4						
July 13, 2022	H. Franklin A. Burke	0700/1100	69/85	3-5/5-10	0/0	None

3.1 VEGETATION

The Survey Area is dominated by non-native herbaceous annual grasslands. Non-native herbaceous grassland communities include primarily Disturbed Fiddleneck Field, with lesser amounts of Disturbed, and Disturbed California Poppy – Lupine Fields. A small patch of Disturbed Rubber Rabbitbrush Scrub is located on the southeastern corner of the Project site portion of the Survey Area and north of the SCE Antelope Substation within the gen-tie line portion of the Survey Area. A patch of Tamarisk Thickets bordered the east side of 90th Street West, within the gen-tie line portion of the Survey Area.

Moderate quality suitable habitat is found within the open and flat areas throughout the Survey Area located within the Disturbed, Disturbed Fiddleneck Field, Disturbed Rubber Rabbitbrush Scrub, and Disturbed California Poppy – Lupine Fields vegetation communities.

A total of 27 plant species were documented during the survey. Plant species observed or detected during the site survey were characteristic of the existing Survey Area site conditions. No special status plant species were observed during the survey efforts. A complete list of plants observed or detected within the Survey Area are included in Appendix B: Plant Species List.

3.2 WILDLIFE

A total of 18 wildlife species were observed during the surveys. Wildlife species observed or detected during the survey were characteristic of the existing Survey Area conditions. One special status species, loggerhead shrike (*Lanius ludovicianus*), was observed during the survey efforts. A single great-horned owl (*Bubo virginianus*) was flushed out of the Tamarisk Thickets located within the gen-tie line portion of the Survey Area. Although the great-horned owl was flushed out of the tamarisk, it remained in the general vicinity of the tamarisk. No impacts to the Tamarisk Thickets located along 90th Street West are anticipated. A complete list of wildlife species observed or detected within the Survey Area are included in Appendix C: Wildlife Species List.

3.2.1 Burrowing Owl

The burrowing owl (BUOW) is considered a CDFW Species of Special Concern (SSC). They nest in underground burrows, typically abandoned by other animals such as ground squirrels, and other large mammals. The BUOW prefers open, flat, and grassland habitat.

No BUOWs or BUOW sign were found within the Survey Area. No impacts to BUOW are anticipated.

3.2.2 Other Sensitive Species

Loggerhead shrike - SSC

The loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern (SSC). One individual was observed foraging and perching along a fence line on the south side of Avenue J, approximately 25 feet south of the proposed gen-tie line within the Survey Area during the April 13, 2022, focused BUOW survey. The loggerhead shrike is a medium-sized shrike and is found in any kind of semi-open terrain with high vantage points such as wires, posts, or other high perching areas (Audubon 2022). In the deserts of southern California, this species nests in many substrates, especially spiny/thorny shrubs like mesquite and require impaling sites for prey manipulation and storage (fence, mesquite thorns, etc.). Potential

foraging opportunities are present within the Survey Area. No nests were found in the ornamental trees and Tamarisk Thickets within the gen-tie line portion of the Survey Area during the focused burrowing surveys. Suitable nesting habitat within the Project site boundary does not exist.

SECTION 4.0 – MITIGATION AND MONITORING

4.1 MITIGATION AND MONITORING

The Survey Area contains low to moderate suitable habitat for the burrowing owl. This species has been recorded within two miles of the site and suitable habitat occurs throughout the Survey Area. However, no burrowing owl or burrowing owl sign were observed during the focused BUOW surveys. Therefore, this species is not anticipated to occur within the site. Although no burrowing owls were observed, a single great-horned owl was observed in the Tamarisk Thickets located within the gen-tie line portion of the Survey Area, along 90th Street West.

The burrowing owl (BUOW) is considered a CDFW SSC and is one of the species covered in the CNDDDB Special Animals List (CNDDDB). The following avoidance measures for BUOW are set forth by CDFW Staff Report on Burrowing Owl Mitigation (2012). Avoidance (pre-construction) surveys shall be conducted no less than 14 days prior to initiating ground disturbance with one final survey conducted within 24 hours prior to ground disturbance for presence of BUOW or BUOW burrows located adjacent to or within the Survey Area, and to avoid negative impacts and direct take of BUOW.

Although no BUOW were observed on site, if BUOWs are identified on site during the avoidance (pre-construction) surveys, avoidance measures will be developed and implemented in compliance with CDFW Staff Report on Burrowing Owl Mitigation (2012). These measures would include the following:

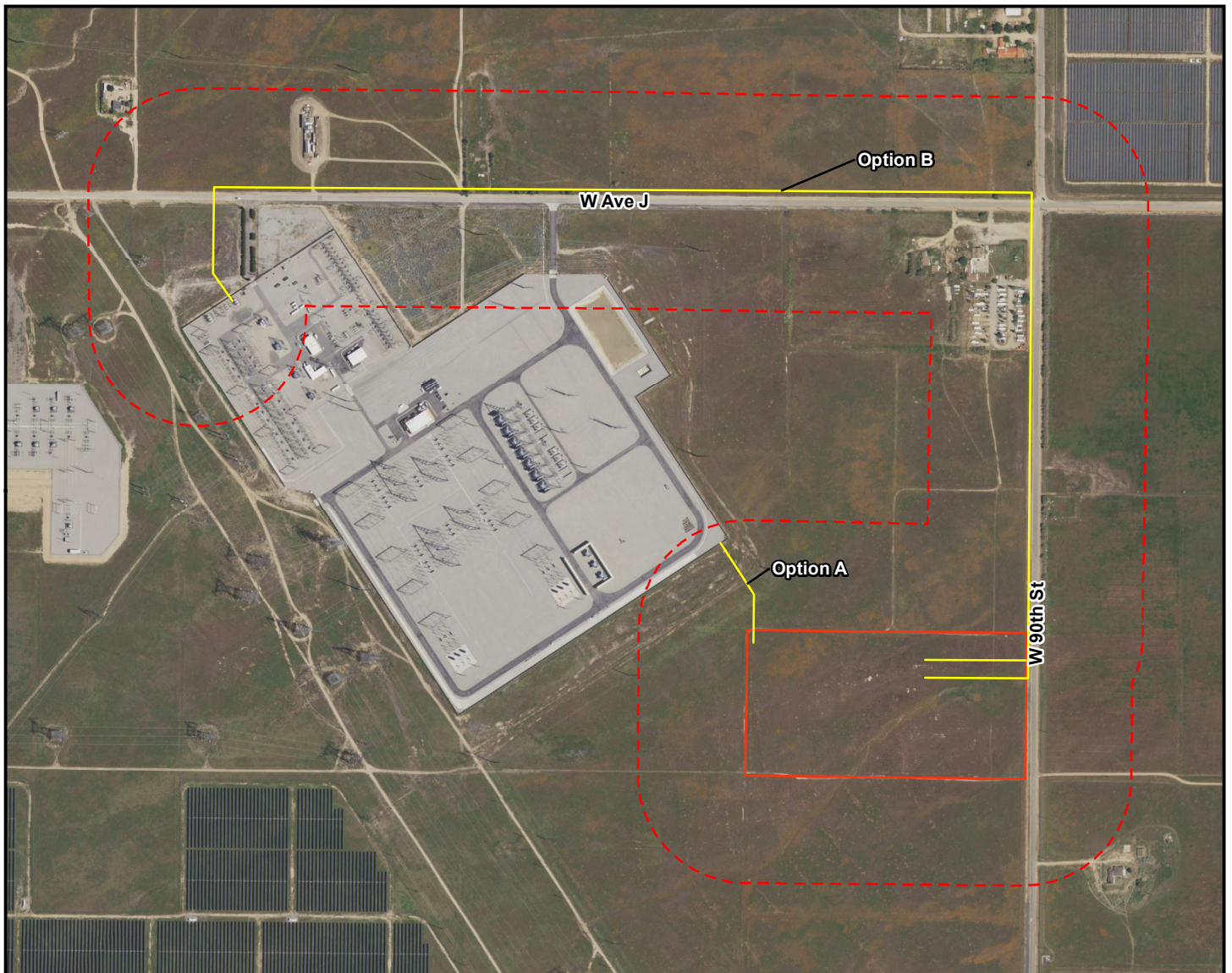
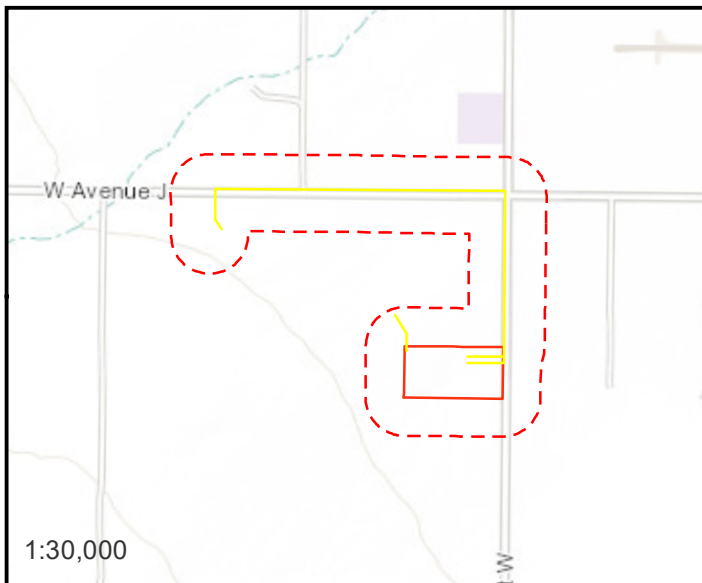
- Avoid disturbing occupied burrows during the nesting period, from 1 February through 31 August.
- Avoid impacting burrows occupied during the non-breeding season by migratory or non-migratory resident burrowing owls.
- Avoid direct destruction of burrows through chaining (dragging a heavy chain over an area to remove shrubs), disking, cultivation, and urban, industrial, or agricultural development.
- Develop and implement a worker awareness program to increase the on-site worker's recognition of and commitment to burrowing owl protection.
- Place visible markers near burrows to ensure that farm equipment and other machinery does not collapse burrows.
- Do not fumigate, use treated bait or other means of poisoning nuisance animals in areas where burrowing owls are known or suspected to occur (e.g., sites observed with nesting owls, designated use areas).
- Restrict the use of treated grain to poison mammals to the months of January and February.

Tamarisk Thickets, telecommunication poles, and transmissions towers are present within the gen-tie line portion of the Survey Area that have the potential to support nests. To avoid the destruction of active nests and to protect the reproductive success of birds protected by Migratory Bird Treaty Act, nesting bird surveys shall be performed prior to the scheduled construction in the proposed Project site and surrounding area during the nesting season for birds (typically February 1 through August 31) and raptors (typically January 15 to September 15).

In the event that active nests are discovered, a suitable buffer should be established around such active nests and no construction within the buffer allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No ground disturbing activities shall occur within this buffer until the qualified biologist has confirmed that

breeding/nesting is complete, and the young have fledged the nest. The buffer should be maintained during physical construction activities. Once nesting activities have ceased (chicks have fledged the nest and are independent of the parent birds), the buffer may be removed.

No additional mitigation or avoidance measures are recommended for this Project.



- Project Boundary
- Gen-Tie Route Options
- - - BUOW Survey Area

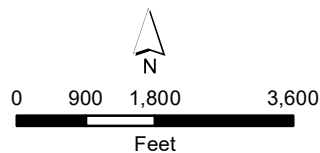


Figure 1
J90 South Energy Storage
Project Location and Vicinity

SECTION 5.0 – REFERENCES

Audubon Society

- 2009 *Guide to North American Birds: Loggerhead shrike.*
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California Department of Fish and Wildlife. Sacramento, CA.

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- 2022 Soil Survey Staff, Natural Resources Conservation Service, United States Department of
Agriculture. Official Soil Series Descriptions [Online Edition]. Website
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx> [Accessed September
2022].

APPENDIX A – SITE PHOTOGRAPHS



APPENDIX A – SITE PHOTOGRAPHS



Photo 1.

General overview of the burrowing owl (BUOW) suitable habitat within the Project site portion of the Survey Area. Photo is facing west.



Photo 2.

General overview of the eastern edge of the Project site portion within the Survey Area. Photo is facing north.



Photo 3.

General overview of the BUOW suitable habitat just west of 90th Street West. Photo is facing west.



Photo 4.

General overview of Disturbed Rubber Rabbitbrush Scrub located on the southeastern corner of the Project site portion within the Survey Area. Photo is facing southwest.



Photo 5.

Photograph taken facing south from eastern end of the generation-tie line portion of the Survey Area. Photo shows Tamarisk Thickets along the eastern end of 90th Street West.



Photo 6.

Photograph taken facing east along West Avenue J, just north of the Southern California Edison Antelope Substation, for the proposed generation-tie line.

APPENDIX B – PLANT SPECIES LIST



APPENDIX B - PLANT SPECIES LIST

Scientific Name	Common Name
GYMNOSPERMS	
CUPRESSACEAE	CYPRESS FAMILY
<i>Juniperus</i> sp.*	juniper
ANGIOSPERMS (EUDICOTS)	
APOCYNACEAE	DOGBANE FAMILY
<i>Asclepias erosa</i>	desert milkweed
ASTERACEAE	SUNFLOWER FAMILY
<i>Ericameria linearifolia</i>	interior goldenbush
<i>Ericameria nauseosa</i>	rubber rabbitbrush
<i>Gnaphalium palustre</i>	lowland cudweed
<i>Lasthenia californica</i>	California goldfields
<i>Lasthenia coronaria</i>	royal goldfields
<i>Uropappus lindleyi</i>	silver puff
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia intermedia</i>	Rancher's fiddleneck
<i>Cryptantha intermedia</i>	clearwater cryptantha
<i>Echium candicans</i> *	pride of Madeira
BRASSICACEAE	MUSTARD FAMILY
<i>Hirschfeldia incana</i> *	shortpod mustard
EUPHORBIACEAE	SPURGE FAMILY
<i>Euphorbia polycarpa</i>	smallseed sandmat
FABACEAE	LEGUME FAMILY
<i>Lupinus bicolor</i>	miniature lupine
GERANIACEAE	GERANIUM FAMILY
<i>Erodium cicutarium</i> *	red-stemmed filaree
OROBANCHACEAE	BROOM-RAPE FAMILY
<i>Castilleja exserta</i>	purple owl's-clover
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia californica</i>	California poppy
PLANTAGINACEAE	PLANTAIN FAMILY
<i>Penstemon centranthifolius</i>	scarlet bugler
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum fasciculatum</i>	California buckwheat
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix ramosissima</i> *	Mediterranean tamarisk
ANGIOSPERMS (MONOCOTS)	
POACEAE	GRASS FAMILY
<i>Avena barbata</i> *	slender wild oat
<i>Bromus diandrus</i> *	ripgut grass

Scientific Name	Common Name
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus tectorum</i> *	cheat grass
<i>Festuca myuros</i> *	rat-tail fescue
<i>Hordeum vulgare</i>	barley
THEMIDACEAE	BRODIAEA FAMILY
<i>Dipterostemon capitatus</i>	blue dicks
*Non-Native Species	

APPENDIX C – WILDLIFE SPECIES LIST



APPENDIX C – WILDLIFE SPECIES LIST

Scientific Name	Common Name
CLASS REPTILIA	REPTILES
CROTALIDAE	PIT VIPERS
<i>Crotalus helleri</i>	southern pacific rattlesnake
CLASS AVES	BIRDS
ACCIPITRIDAE	HAWKS, KITES, EAGLES
<i>Buteo jamaicensis</i>	red-tailed hawk
ODONTOPHORIDAE	NEW WORLD QUAIL
<i>Callipepla californica</i>	California quail
COLUMBIDAE	PIGEONS & DOVES
<i>Streptopelia decaocto</i>	Eurasian collared-dove
<i>Zenaida macroura</i>	mourning dove
TYTONIDAE	BARN OWLS
<i>Tyto alba</i>	barn owl
STRIGIDAE	TRUE OWLS
<i>Bubo virginianus</i>	great horned owl
TYRANNIDAE	TYRANT FLYCATCHERS
<i>Sayornis saya</i>	Say's phoebe
<i>Tyrannus verticalis</i>	western kingbird
ALAUDIDAE	LARKS
<i>Eremophila alpestris</i>	horned lark
HIRUNDINIDAE	SWALLOWS
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow
CORVIDAE	JAYS & CROWS
<i>Corvus corax</i>	common raven
MIMIDAE	MOCKINGBIRDS, THRASHERS
<i>Mimus polyglottos</i>	northern mockingbird
LANIIDAE	SHRIKES
<i>Lanius ludovicianus</i>	loggerhead shrike
PARULIDAE	WOOD WARBLERS
<i>Setophaga coronata</i>	yellow-rumped warbler
ICTERIDAE	BLACKBIRDS
<i>Sturnella neglecta</i>	western meadowlark
EMBERIZIDAE	EMBERIZIDS
<i>Passerculus sandwichensis</i>	savannah sparrow
FRINGILLIDAE	FINCHES
<i>Carpodacus mexicanus</i>	house finch

APPENDIX D – FOCUSED BURROWING OWL DATA SHEETS

BURROWING OWL FOCUSED SURVEY FORM

BIOLOGIST (S): Austin Burke, Hannah Romano			DATE: 04/13/2022	
PROJECT NAME AND NUMBER: J90 South Energy Storage Project, Lancaster. Project #21343				
PROJECT LOCATION: Los Angeles County, Lancaster, CA				
SURVEY TYPE: Burrow Survey ☒ BUOW Focused Survey ☒ BUOW Precon Survey ☐		TIME OF DAY: Dawn ☐ Dusk ☐ N/A ☒		FOCUSED SURVEY: 1 ☒ 2 ☐ 3 ☐ 4 ☐ N/A ☐
START TIME: 7:00 AM			END TIME: 1500	
Temperature Start: 39 F End: 66 F	Cloud Cover Start: 0% End: 0%	Wind Speed/Direction Start: 20 mph End: 24 mph	Precipitation Start: 0% End: 0%	
Adjacent Land Uses: SCE Antelope Substation, solar farms, and some residential properties.				
General Site Conditions (topography, soils, vegetation/plant communities): The Project site is relatively flat. The soils were mostly sandy. Vegetation communities include: non-native grassland, ornamental landscaping, bare ground, and disturbed/developed areas. The dominant community on the site is non-native grassland.				
Animal Species Present (observed, detected, activity): Common raven, savannah sparrow, house finch, California quail, western kingbird, western meadowlark, loggerhead shrike, red-tailed hawk, mourning dove, yellow-rumped warbler, great horned owl, northern mockingbird, and southern pacific rattlesnake.				
Plant Species Present: narrowleaf goldenbush, rubber rabbitbush, western marsh cudweed, California goldfields, royal goldfields, silver puffs, desert milkweed, Rancher's fiddleneck, clearwater cryptantha, shortpod mustard, Juniper sp., smallseed sandmat, Miniature lupine, red-stemmed filaree, pride of India, purple owl's-clover, California poppy, slender wild oat, ripgut grass, soft chess, foxtail chess, cheatgrass , common barley, rat-tail fescue, scarlet bugler, California buckwheat, Mediterranean tamarisk, and blue dicks.				

Existing structures present? Visible site disturbances? If yes, describe.

No existing structures are present within the proposed Option areas. There are power lines that run northwest from the substation that are in close proximity to a few of the northwestern parcels. Two parcels butt up against residential properties. There are also some dirt roads that run directly through a few of the parcels as well. Option 1 and Option 3 do not have any visible site disturbances.

- No BUOW or burrows with BUOW sign were observed.

BURROW/BURROWING OWL OBSERVATIONS**Sign ID:** _____ N/A _____**General location:** _____**GPS coordinates:** Lat _____ Long _____ **Aspect:** _____**Dimensions:** H _____ W _____ D _____ **Can you see the end of the burrow?** Yes ☐ No ☐**Sign:** Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐**Number of BUOWs:** Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐**Behaviors:** Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐**Added to Collector?** Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐**Additional details/Notes:****Sign ID:** _____ N/A _____**General location:** _____**GPS coordinates:** Lat _____ Long _____ **Aspect:** _____**Dimensions:** H _____ W _____ D _____ **Can you see the end of the burrow?** Yes ☐ No ☐**Sign:** Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐**Number of BUOWs:** Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐**Behaviors:** Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐**Added to Collector?** Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐**Additional details/Notes:**

Sign ID: _____ N/A _____

General location: _____

GPS coordinates: Lat _____ Long _____ **Aspect:** _____

Dimensions: H _____ W _____ D _____ **Can you see the end of the burrow?** Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐

Additional details/Notes:

BURROWING OWL FOCUSED SURVEY FORM

BIOLOGIST (S): P. Morrissey and M. Gomez		DATE: 6/3/22	
PROJECT NAME AND NUMBER: J-90 BESS BUOW Survey 21343			
PROJECT LOCATION: Lancaster, CA			
SURVEY TYPE: Burrow Survey ☐ BUOW Focused Survey ☒ BUOW Precon Survey ☐		TIME OF DAY: Dawn ☐ Dusk ☐ N/A ☒	
		FOCUSED SURVEY: 1 ☐ 2 ☒ 3 ☒ 4 ☐ N/A ☐	
START TIME: 0650		END TIME: 1300	
Temperature Start: 69°F End: 85°F	Cloud Cover Start: 15% End: 5%	Wind Speed/Direction Start: 5-10 mph End: 10-15	Precipitation Start: 0% End: 0%
Adjacent Land Uses: Open land, residential homes, RV park, abandoned homes, and SCE substation.			
General Site Conditions (topography, soils, vegetation/plant communities): Flat, disturbed fiddleneck field with a patch of rabbit rubber brush.			
Animal Species Present (observed, detected, activity): CA quail, common raven, house finch, western meadowlark, northern mockingbird, western kingbird, horned lark			
Plant Species Present: rabbit rubber brush, bromus spp., ~~scholar~~ mustard, short-pod			
Existing structures present? Visible site disturbances? If yes, describe. Yes, outside of project areas which include telecom poles, transmission towers, and substation.			

BURROW/BURROWING OWL OBSERVATIONS

Sign ID: 3-01

General location: South of West Avenue J

GPS coordinates: Lat 34.659037 Long -118.296397 Aspect: 322 NW

Dimensions: H 4.5 in W 3 in D N/A Can you see the end of the burrow? Yes ☒ No ☐

Sign: Whitewash ☒ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult 0 Juvenile 0 Pair observed? Yes ☐ No ☒

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☒ No ☐ Photos taken? Yes ☒ No ☐

Additional details/Notes:
Potential old whitewash, however, not active, Burrow is collapsed and entrance covered in webs/weeds.

Sign ID: _____

General location: _____

GPS coordinates: Lat _____ Long _____ Aspect: _____

Dimensions: H _____ W _____ D _____ Can you see the end of the burrow? Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ Pair observed? Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ Photos taken? Yes ☐ No ☐

Additional details/Notes: _____

Sign ID: _____

General location: _____

GPS coordinates: Lat _____ Long _____ Aspect: _____

Dimensions: H _____ W _____ D _____ Can you see the end of the burrow? Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ Pair observed? Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ Photos taken? Yes ☐ No ☐

Additional details/Notes: _____

BURROWING OWL FOCUSED SURVEY FORM

BIOLOGIST (S): H. Franklin and M. Gomez		DATE: 6/21/2022	
PROJECT NAME AND NUMBER: J-90 BESS BUOW Survey - 21343			
PROJECT LOCATION: Lancaster, CA			
SURVEY TYPE: Burrow Survey ☐ BUOW Focused Survey ☒ BUOW Precon Survey ☐		TIME OF DAY: Dawn ☐ Dusk ☐ N/A ☒	
		FOCUSED SURVEY: 1 ☐ 2 ☐ 3 ☒ 4 ☐ N/A ☐	
START TIME: 0700		END TIME: 1100	
Temperature Start: ~~67~~ 60°F End: 89°F	Cloud Cover Start: 0% End: 5%	Wind Speed/Direction Start: 0 End: 6-8 mph	Precipitation Start: 0% End: 0%
Adjacent Land Uses: open land, residential homes/properties, RV park, abandoned properties, and SCE substation.			
General Site Conditions (topography, soils, vegetation/plant communities): Flat, disturbed fiddleneck field with patches of rabbit rubber brush.			
Animal Species Present (observed, detected, activity): HOPI, CORA, WEXI, MODO, EUCD, RTHA, BAOW, MOMO,			
Plant Species Present: rabbit rubber brush, bromus spp, ~~schlegel~~ mustard, short-pod			
Existing structures present? Visible site disturbances? If yes, describe. Yes, outside of project options which include transmission towers, telecom lines, solar panels, and substation.			

BURROW/BURROWING OWL OBSERVATIONS

Sign ID: 0

General location: _____

GPS coordinates: Lat _____ Long _____ Aspect: _____

Dimensions: H _____ W _____ D _____ Can you see the end of the burrow? Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ Pair observed? Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ Photos taken? Yes ☐ No ☐

Additional details/Notes:

NO BUOW or BUOW sign observed.

Sign ID: 0

General location: _____

GPS coordinates: Lat _____ Long _____ Aspect: _____

Dimensions: H _____ W _____ D _____ Can you see the end of the burrow? Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ Pair observed? Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ Photos taken? Yes ☐ No ☐

Additional details/Notes:

Sign ID: 0

General location: _____

GPS coordinates: Lat _____ Long _____ Aspect: _____

Dimensions: H _____ W _____ D _____ Can you see the end of the burrow? Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ Pair observed? Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ Photos taken? Yes ☐ No ☐

Additional details/Notes:

BURROWING OWL FOCUSED SURVEY FORM

BIOLOGIST (S): Austin Burke, Heather Franklin			DATE: 07/13/2022	
PROJECT NAME AND NUMBER: J90 South Energy Storage Project, Lancaster. Project #21343				
PROJECT LOCATION: Los Angeles County, Lancaster, CA				
SURVEY TYPE: Burrow Survey ☒ BUOW Focused Survey ☒ BUOW Precon Survey ☐		TIME OF DAY: Dawn ☐ Dusk ☐ N/A ☒		FOCUSED SURVEY: 1 ☐ 2 ☐ 3 ☐ 4 ☒ N/A ☐
START TIME: 7:00 AM			END TIME: 1100	
Temperature Start: 69 F End: 85 F	Cloud Cover Start: 0% End: 0%	Wind Speed/Direction Start: 3-5 mph End: 5-10 mph	Precipitation Start: 0% End: 0%	
Adjacent Land Uses: SCE Antelope Substation, solar farms, and some residential properties.				
General Site Conditions (topography, soils, vegetation/plant communities): The Project site is relatively flat. The soils were mostly sandy. Vegetation communities include: non-native grassland, ornamental landscaping, bare ground, and disturbed/developed areas. The dominant community on the site is non-native grassland.				
Animal Species Present (observed, detected, activity): Common raven, savannah sparrow, house finch, western kingbird, western meadowlark, mourning dove, northern mockingbird, northern rough-winged swallow and Say's phoebe.				
Plant Species Present: narrowleaf goldenbush, rubber rabbitbush, western marsh cudweed, California goldfields, royal goldfields, silver puffs, desert milkweed, Rancher's fiddleneck, clearwater cryptantha, shortpod mustard, Juniper sp., smallseed sandmat, Miniature lupine, red-stemmed filaree, pride of India, purple owl's-clover, California poppy, slender wild oat, ripgut grass, soft chess, foxtail chess, cheatgrass, common barley, rat-tail fescue, scarlet bugler, California buckwheat, Mediterranean tamarisk, and blue dicks.				

Existing structures present? Visible site disturbances? If yes, describe.

No existing structures are present within the proposed Option areas. There are power lines that run northwest from the substation that are in close proximity to a few of the northwestern parcels. Two parcels butt up against residential properties. There are also some dirt roads that run directly through a few of the parcels as well. Option 1 and Option 3 do not have any visible site disturbances.

- No BUOW or burrows with BUOW sign were observed.

BURROW/BURROWING OWL OBSERVATIONS**Sign ID:** _____ N/A _____**General location:** _____**GPS coordinates:** Lat _____ Long _____ **Aspect:** _____**Dimensions:** H _____ W _____ D _____ **Can you see the end of the burrow?** Yes ☐ No ☐**Sign:** Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐**Number of BUOWs:** Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐**Behaviors:** Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐**Added to Collector?** Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐**Additional details/Notes:****Sign ID:** _____ N/A _____**General location:** _____**GPS coordinates:** Lat _____ Long _____ **Aspect:** _____**Dimensions:** H _____ W _____ D _____ **Can you see the end of the burrow?** Yes ☐ No ☐**Sign:** Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐**Number of BUOWs:** Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐**Behaviors:** Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐**Added to Collector?** Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐**Additional details/Notes:**

Sign ID: _____N/A_____

General location: _____

GPS coordinates: Lat_____ Long_____ **Aspect:** _____

Dimensions: H_____ W_____ D_____ **Can you see the end of the burrow?** Yes ☐ No ☐

Sign: Whitewash ☐ Pellets ☐ Feathers ☐ Prey remains ☐ Shell fragments ☐ Decoration ☐ Other ☐

Number of BUOWs: Adult _____ Juvenile _____ **Pair observed?** Yes ☐ No ☐

Behaviors: Foraging ☐ Feeding ☐ Resting ☐ Preening ☐ Courtship ☐ Alarm ☐ Territorial defense ☐ Other ☐

Added to Collector? Yes ☐ No ☐ **Photos taken?** Yes ☐ No ☐

Additional details/Notes:

