BIOLOGICAL TECHNICAL REPORT
TIE LINE 649
WOOD TO STEEL POLE REPLACEMENT PROJECT
SAN DIEGO AND CHULA VISTA,
SAN DIEGO COUNTY, CALIFORNIA

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
Blackhawk	Blackhawk Environmental
BMPs	Best Management Practices
BUOW	western burrowing owl
CACW	coastal cactus wren
CAGN	coastal California gnatcatcher
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Chambers Group	Chambers Group, Inc.
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
COS	Conservation and Open Space
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
FP	Fully Protected
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
ILAs	Incidental Landing Areas
kV	kilovolt
LBVI	least Bell's vireo
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Plan
NCCP	Natural Community Conservation Plan
NI	Not Indicated
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	Ordinary High Water Mark
PFO	Potential for Occurrence
QCB	Quino checkerspot butterfly
RECON	Recon Environmental, Inc.
ROW	Right-of-Way
RPW	Relatively Permanent Water
RWQCB	Regional Water Quality Control Board
SCS	South County Segment
SDG&E	San Diego Gas & Electric
SR	State Route

SSC	California Species of Special Concern
SW	steel-wood
SWFL	southwestern willow flycatcher
SWRCB	State Water Resources Control Board
TL	Tie Line
TNW	Traditional Navigatable Waterway
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	Waste Discharge Report
WYBC	western yellow-billed cuckoo

EXECUTIVE SUMMARY

San Diego Gas and Electric (SDG&E) Company proposes to remove approximately 132 existing power and distribution line poles and replace them with 117 galvanized steel poles along an approximately seven-mile portion of Tie Line (TL) 649 between the existing Otay Mesa Substation to the existing Border Substation (Proposed Project or Project). SDG&E has contracted Chambers Group, Inc. (Chambers Group) to conduct wildlife surveys, plant surveys, vegetation mapping, and vernal pool surveys for the Project. The biological surveys were conducted during the course of several months in the spring and summer of 2014. Focused plant surveys and sensitive wildlife surveys for the targeted species were performed in accordance with survey protocols set forth by the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and U.S. Fish and Wildlife Service (USFWS).

The areas surveyed (Survey Area) consisted of a 150-foot buffer around each pole centerline. For other Project features, the Survey Area included a 50-foot buffer around Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot buffer around Project access roads. The additional buffer was surveyed to include potential additional work space that may be required during normal construction activities.

A total of 53 special-status plant species were evaluated for their potential occurrence within the Survey Area; based on the results of the two focused plant survey efforts, 17 sensitive plant species were identified to occur within the Survey Area and 18 species were determined to be absent from the Survey Area. The remaining 18 species consisted of annual herbaceous, perennial herbaceous, and perennial bulbiferous species. These species were not observed within the Survey Area. Considering the drought conditions in 2014, it is possible that some of the 18 herbaceous or perennial bulb species may not have germinated or flowered during 2014 but are, in fact, persistent in the soil and will be conspicuous when conditions are more favorable. These species are described as “presumed absent” for the purposes of this study and are not expected to occur. An additional seven California Rare Plant Rank (CRPR) 4 species were incidentally observed during the survey effort.

A total of 56 special-status wildlife species were evaluated for their potential occurrence within the Survey Area. Based on the habitat assessments by qualified and permitted biologists, focused surveys were conducted for the coastal California gnatcatcher (CAGN) (*Polioptila californica californica*), coastal cactus wren (CACW) (*Campylorhynchus brunneicapillus*), southwestern willow flycatcher (SWFL) (*Empidonax traillii extimus*), least Bell’s vireo (LBVI) (*Vireo bellii pusillus*), western yellow-billed cuckoo (WYBC) (*Coccyzus americanus occidentalis*), Quino checkerspot butterfly (QCB) (*Euphydryas editha quino*), and western burrowing owl (BUOW) (*Athene cunicularia hypugea*). Based on the results of the habitat assessment and focused survey efforts, 21 sensitive wildlife species were identified to occur within the Survey Area and seven species were considered absent from the Survey Area due to extirpation or absence of suitable habitat. Only two federally and state listed species, CAGN and LBVI, were observed to occur within the Survey Area. The remaining 27 species were determined to have a low, moderate, or high potential to occur within the Survey Area.

The Proposed Project has been designed to avoid water resources, including not placing poles in drainage areas, using existing access roads to the greatest extent possible, and placing staging areas, laydown areas, and guard structures outside water resources when feasible. Ground-disturbing activities within the Proposed Project are located away from potential waters or wetlands. Avoidance of waters during construction will be covered under the State Water Resources Control Board (SWRCB) Construction General Permit and outlined in more detail in the Project’s Storm Water Pollution

Prevention Plan. As a result, direct and indirect impacts to jurisdictional features are not expected to occur during construction of the Proposed Project.

No impacts to waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, or Regional Water Quality Control Board (RWQCB) are anticipated. If impacts to jurisdictional waters and associated riparian/wetland habitat cannot be avoided, SDG&E will submit applications for required permits (401 certification, 404 and 1600-1602 permits) to comply with the Clean Water Act (CWA) and Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Wildlife Code.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of vegetation communities and habitats supporting sensitive plants and wildlife. For construction of the Proposed Project, SDG&E will consult with USFWS and CDFW for compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). SDG&E will also implement Project Design Features and Ordinary Construction/Operating Restrictions during construction, which include specific Operational Protocols and Vernal Pool Protocols identified in SDG&E's Subregional Natural Community Conservation Plan (NCCP). For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

SECTION 1.0 – BACKGROUND INFORMATION

1.1. PROJECT DESCRIPTION

SDG&E proposes the Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Proposed Project or Project) in an effort to fire-harden existing facilities in SDG&E's service territory. SDG&E proposes to replace wood poles with steel poles along approximately seven miles of the existing 69-kilovolt (kV) single-circuit power line. This segment of the Proposed Project is located in the cities of San Diego and Chula Vista, California (State), as well as unincorporated San Diego County (County). The Proposed Project extends east from Black Coral Way and Sea Lavender Way in the City of San Diego for approximately five miles; then travels south for approximately two miles to just north of Otay Mesa Road in unincorporated San Diego County. Over this distance, the Project traverses private and public lands, including lands owned by the County of San Diego, the City of San Diego, the City of Chula Vista, the State of California, and SDG&E. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

Specifically, SDG&E proposes to conduct the following activities as part of the Proposed Project:

- Remove approximately 132 existing wood power line and interset distribution line poles and replace them with approximately 117 galvanized steel structures. Of the 117 replacement structures, approximately 21 poles will require a pier foundation, approximately seven will require a micropile foundation, and the remaining 89 will be directly buried;

- Conduct overhead work on approximately two existing power line poles and approximately one existing distribution line pole;

- Convert approximately 430 feet of underground power line cable under State Route (SR) 125 to an overhead configuration;

- Transfer existing 69 kV power line conductors to the new steel poles;

- Transfer approximately 1.5 miles of existing distribution conductors and replace approximately 3.9 miles of distribution conductors with new aluminum conductor steel-reinforced distribution conductors.

SDG&E will utilize approximately 28 stringing sites, two temporary guard structures, and two staging areas during construction of the Proposed Project. The Proposed Project is consistent with SDG&E's efforts to improve reliability in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line according to the existing vegetation and fuel conditions, the history of high-speed winds in the area, and the age and condition of the existing facilities as part of an overall strategy to strengthen power lines for improved system reliability. SDG&E periodically reviews and updates the prioritization of these poles for replacement based on changes in field conditions, such as increases in the density of vegetation (fire fuel) surrounding existing poles. The Proposed Project incorporates updated design standards to reduce fire risks and will implement a Project-specific fire plan to minimize fire risks during construction.

During the evaluation process, the segment of TL 649 included in the Proposed Project met SDG&E's criteria for immediate replacement based on the above factors. Specifically, the segment is primarily located within the fire threat zone, as indicated on SDG&E's 2014 Fire Threat Zone Map. The Proposed Project will contribute to reduced potential fire hazard risks in this area under certain atmospheric conditions. Additional benefits of the Proposed Project include a reduction in potential service outages, reduction in facility maintenance, and maximization of equipment life span potential.

1.2. SURVEY AREA

The Project Area includes approximately seven linear miles of power line as well as the associated access roads and work areas. The Proposed Project traverses a large expanse of densely vegetated and fire-prone areas on public and private lands, within the U.S. Geological Survey (USGS) 7.5-minute *Imperial Beach* and *Otay Mesa* quadrangles.

The areas surveyed (Survey Area) consisted of a 150-foot buffer around the powerline centerline, except as noted in the following subsections. For other Project features, the Survey Area included a 50-foot buffer around Project facilities (substations, staging yards, stringing sites, etc.), and a 20-foot buffer around Project access roads. The additional buffer was surveyed to include potential additional work space that may be required during normal construction activities. Appendix A contains the Project Figures (Project Location Map; California Natural Diversity Database (CNDDB) and Critical Habitat Maps; Preserve Area Maps, and Sensitive Species Maps; Vegetation Communities Maps; and Land Ownership Maps).

1.3. PROJECT COMPONENTS

The existing wooden poles will be replaced with new dull galvanized steel-wood (SW) equivalent poles, which consists of directly-embedded, tubular light-duty and heavy-duty steel poles and engineered steel poles with micropile or pier foundations. Construction-related activities associated with the Proposed Project include replacing approximately 117 wood poles with steel poles, removing approximately 15 wooden poles from service, conducting overhead work at approximately three poles, installing approximately two temporary guard structures, reestablishing existing access roads, and accessing approximately 28 stringing sites and approximately two staging yards as well as transferring the existing transmission conductors and replacing some distribution conductor. Once the new poles have been installed, a mechanical pulling machine (powered dolly) will be used to facilitate the installation of new distribution conductors. Wherever possible, activities will occur within existing paved or unpaved access roads or other previously disturbed areas.

1.3.1 Staging Yards

Staging yards included in the Proposed Project design are necessary for storing and preparing materials and equipment for Project activities. The Proposed Project will include approximately two proposed staging yards: the Main Street Staging Yard and the Otay Staging Yard.

The Main Street Staging Yard is approximately 261,360 square feet (six acres) in size. The site is located south of Main Street near the intersections of Main Street and Auto Park Avenue and Main Street and Maxwell Road. The site is located within a previously disturbed lot in the incorporated community of Chula Vista. The yard can be accessed directly from Main Street to the north.

The Otay Staging Yard is approximately 33 acres in size. However, the Proposed Project will only utilize a smaller, approximately 174,240 square foot (four acre) portion of the yard within the larger lot. This site is located within an automobile and industrial storage facility in unincorporated San Diego County. The yard can be accessed directly from Otay Mesa Road to the south. The final location of the Otay Staging Yard will depend on property owner approval and a configuration that utilizes previously disturbed areas to the extent possible. Both staging yards may also be used as Incidental Landing Areas (ILAs) for helicopters, if necessary.

1.3.2 Stringing Sites

To facilitate the reconductoring of the TL, approximately 28 stringing sites of various dimensions may be utilized. Stringing sites, where feasible, will be confined to previously disturbed areas within the Right-of-Way (ROW) and along existing Project access roads. The use of approximately 28 stringing sites may temporarily impact up to 115,434 square feet (2.65 acres) of habitat. Vehicles, equipment, and personnel will remain within the SDG&E ROW, existing paved or unpaved access roads, or previously disturbed areas to the greatest extent possible.

Table 1: Stringing Site Locations

Stringing Site	Temporary Impacts (square feet)	Location	Proposed Access
#1	2,100	West of Location 1 and West of Black Coral Way	Via Black Coral Way
#2	2,100	West of Location 10	Existing SDG&E access roads
#3	2,100	East of Location 10	Existing SDG&E access roads
#4	840	Northwest of Location 18.4	Via Heritage Road
#5	840	Adjacent to Location 18.3	Via existing SDG&E access roads
#6	840	Adjacent to Location 18.3	Via existing SDG&E access roads
#7	840	South of Location 18.1	Via Otay Valley Road
#8	4,500	Immediately east of Location 22	Via existing SDG&E access roads
#9	4,500	East of Location 23	Via existing SDG&E access roads
#10	4,500	West of Location 29	Via existing SDG&E access roads
#11	4,500	East of Location 29	Via existing SDG&E access roads
#12	2,100	West of Location 49	Via existing SDG&E access roads
#13	2,100	East of Location 51	Via existing SDG&E access roads
#14	2,100	West of Location 53	Via existing SDG&E access roads
#15	3,750	Northeast of Location 53	Via existing SDG&E access roads
#16	4,500	Southwest of Location 55	Via existing SDG&E access roads
#17	4,500	Northeast of Location 55	Via existing SDG&E access roads
#18	2,100	Southwest of Location 71	Via existing SDG&E access roads
#19	2,100	Northeast of Location 71	Via existing SDG&E access roads
#20	2,100	West of Location 75	Via existing SDG&E access roads
#21	2,100	East of Location 75	Via existing SDG&E access roads
#22	2,100	North of Location 97	Via existing SDG&E access roads
#23	2,100	West of Location 97	Via existing SDG&E access roads

Table 1: Stringing Site Locations

Stringing Site	Temporary Impacts (square feet)	Location	Proposed Access
#24	22,500	North of Location 97.1	Via existing SDG&E access roads
#25	21,000	Northwest of Location 103	Via existing SDG&E access roads
#26	2,100	North of Location 108	Via existing SDG&E access roads
#27	2,100	North of Location 109	Via existing SDG&E access roads
#28	5,250	South of Location 116	Via existing SDG&E access roads

1.3.3 Guard Structures

Temporary guard structure installation may occur in locations within the seven-mile project alignment where stringing work will cross existing facilities such as other utilities and roadways to assure safety while conductors are being pulled. Different types of guard structures may be used depending on the site conditions. Bucket trucks often are utilized as guard structures during stringing activities. Where wooden poles are used as guard structures, installation requires the temporary use of approximately 36 square feet of area for a single-pole guard structure and approximately 72 square feet of area for an H-frame guard structure. The temporary work area is located in the immediate vicinity of the guard structure location. No permanent impacts would result from the utilization of guard structures. Approximately two guard structures are anticipated to be utilized on the Project at locations where the TL crosses public roads.

1.4. SITE ACCESS

All Project-related activities will remain within the existing SDG&E ROW easements wherever feasible. All sites/pole locations are expected to be accessible by vehicle on unpaved SDG&E-maintained access roads or by overland travel. Road re-establishment and/or vegetation clearing may be necessary to improve some existing access roads and to re-establish unmaintained access roads. No new access roads are anticipated to be established. The Proposed Project design includes the modification of existing access roads at four pole locations estimated to each include an approximately 50-foot-long by five-foot-wide (250 square foot) impact area at each pole. Vehicles will remain within existing access roads, previously disturbed areas, and designated temporary work areas whenever feasible.

1.5. CONSTRUCTION METHODS

Three distinct types of poles will be used for the Proposed Project: direct-embedded SW dull galvanized steel poles, engineered dull galvanized steel poles used with micropile foundations, and engineered dull galvanized steel poles used with pier foundations. Work areas for each type of pole will vary but will be confined to the previously disturbed areas around the base of the existing poles to the extent possible in order to provide a safe and adequate workspace and minimize additional vegetation clearing.

1.5.1 Directly Embedded Steel Poles

Directly embedded poles will be dull galvanized steel poles that are secured in place with concrete backfill. The poles will range in heights from approximately 38 to 84 feet above grade. The diameter of the pole at ground level is approximately 30 inches. The poles will be directly-embedded at a depth of approximately seven to 16 feet below ground level as necessary for installation.

1.5.2 Micropile Foundation Poles

Micropile foundation poles are heavy-duty, engineered steel poles installed using a micropile foundation that include a series of level work platforms from which small micropiles (or small, individual foundations) are installed. The poles will have a height of approximately 65 to 90 feet above grade. A steel cap and micropile anchor bolt ring are installed above the micropile foundation to act as the base foundation for an engineered steel pole. The combined dimensions of the micropile foundation and pole are expected to average seven feet in diameter at ground level (and not have a diameter greater than eight feet).

1.5.3 Pier Foundation Poles

Concrete pier foundation poles will utilize a six- to eight-foot-diameter hole dug approximately 30 to 40 feet by a large truck-mounted auger. A rebar cage is lowered into the hole, and an anchor bolt cage is inserted within the rebar cage. The hole is then filled with concrete, with the exposed final foundation remaining approximately two feet above ground level. The new engineered steel pole is then bolted to the foundation. New steel single-pole concrete pier foundation structures will range in height from 65 to 80 feet above ground, will be approximately 72 to 96 inches in diameter at the base, and will be made of dull galvanized steel.

1.5.4 Steel Replacement Poles

Replacement poles will be located as close as possible to the existing poles, usually within 10 feet; and installation of the new steel poles will require excavating the pole holes using either a truck-mounted auger or drill rig, or by hand with the aid of a hand jack powered by an air compressor. Excavated soil will be placed in a spoils pile adjacent to each hole. Spoil boxes may be used to store spoils at sites that are located on steep or uneven terrain. Plywood boards or visqueen covers will be used to cover the excavated holes until pole installation activities begin. New poles will be installed by line truck or by helicopter. Excess spoils generated from Project activities will be dispersed around the bases of the poles within the allotted temporary work areas and/or evenly distributed on the existing access roads and properly compacted. In the event that the soil cannot be spread and adequately contoured or compacted onto the existing access roads, crews will remove the excess soil from the Project site. The appropriate Best Management Practices (BMPs) will be used before, during, and after Project-related construction activities where necessary to prevent offsite sedimentation. Bucket trucks will be utilized to remove the conductors and cross-arms from old poles. Wood poles will be removed by cutting the poles into sections or removed completely by use of a hydraulic jack and line truck. The existing pole butt will be completely removed, and the hole will be backfilled with spoils, unless it is required to remain in place to reduce impacts to sensitive resources in the immediate vicinity of the pole location.

1.5.5 Wood Pole Removal

Wood pole removal activities will utilize boom and bucket trucks to remove cross arms, conductors, and poles. Helicopters may be used in areas not accessible by boom truck or in areas where sensitive resources are present. Associated hardware, including anchors and old wood poles, will be recycled and/or disposed of at an approved offsite location.

SECTION 2.0 – REGULATORY BACKGROUND

The following federal, state, and local regulations and policies pertain to biological resources and are relevant to the Proposed Project.

2.1. FEDERAL

2.1.1 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of fill material into waters of the U.S. without a permit from the USACE. The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3(b)). The goals and standards of the CWA are enforced through permit provisions. The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

When a project may create impacts for wetlands, the project requires a permit or a waiver. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required from the RWQCB for Section 404 permit actions.

Clean Water Rule

The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015 and effective August 28, 2015—was enacted to ensure that waters protected under the CWA are more precisely defined and predictably determined.

2.1.2 Federal Endangered Species Act of 1973

When a private project that has no federal funding and for which no federal action is required may affect a listed species, the private applicant may receive authorization for incidental take of species listed under the FESA . In these situations, Section 10 of the FESA provides for issuance of incidental take permits (ITPs) to private entities with the development of a HCP, such as SDG&E's NCCP and Low-Effect HCP for QCB. An ITP allows take of the species that is incidental to another authorized activity.

Final Rule for Revised Designation of Critical Habitat for the Coastal California Gnatcatcher

The USFWS designates critical habitat for endangered and threatened species under the FESA (16 USC § 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Critical habitat includes areas used for foraging, breeding, roosting, shelter, and movement or migration. In the USFWS 2003 Proposed Rule to Revise Designation of Critical Habitat for the Coastal California Gnatcatcher, the USWFS considered but did not propose as critical habitat, pursuant to sections 3(5)(A) and 4(b)(2) of the Act, reserve lands covered by three completed and approved regional/subregional HCPs (68 FR 20228). These lands include SDG&E right-of-way (ROW) within SDG&E's NCCP. Although these areas were not included in the proposed critical habitat, the

USFWS sought public review and comment on these lands, provided maps to facilitate the public's ability to comment, and alerted the public that the lands could potentially be included in the final designation. Lands considered but not proposed for designation were also analyzed for potential economic impacts in the Draft Economic Analysis.

In 2007, USFWS issued the Revised Final Rule, reaffirming exclusion of lands within approved regional and subregional HCPs under section 4(b)(2) of the FESA. USFWS determined that lands owned by SDG&E and covered under SDG&E's NCCP provided greater benefits to coastal California gnatcatcher than other areas designated as critical habitat. As such, the USFWS designation of critical habitat for the coastal California gnatcatcher specifically excludes SDG&E ROW within SDG&E's NCCP area.

2.1.3 Migratory Bird Treaty Act, as Amended

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 USC 703-711), provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. USFWS determined it was illegal under the MBTA to directly kill, or destroy an active nest (nest with eggs or nestlings), of nearly any bird species (with the exception of non-native species through the MBTA Reform Act of 2004). Certain game bird species are allowed to be hunted for specific periods determined by federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- Falconry
- Raptor propagation
- Scientific collecting
- Special purposes, such as rehabilitation, education, migratory game bird propagation, and salvage
- Take of depredating birds, taxidermy, and waterfowl sale and disposal

The regulations governing migratory bird permits can be found in Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the CFR.

2.1.4 Bald and Golden Eagle Protection Act, as Amended

The Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 USC. 668-668c), provides legal protection to bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) in addition to protection afforded under the MBTA. The BGEPA prohibits the "take" (to pursue, shoot, shoot at, wound, kill, capture, trap, collect, molest, or disturb) of bald and golden eagles including their nests, eggs, or parts. "Disturbance" of bald and golden eagles is also prohibited under the BGEPA; and "disturbance" relates to injuries to bald or golden eagles or a disruption to life cycles, productivity, and/or substantial interference of normal bald and golden eagle behavior. The BGEPA also extends to potential impacts to bald and golden eagles caused by human-induced environmental changes near a previously used nest when the eagles are not present.

2.2. STATE

2.2.1 California Endangered Species Act

The CESA (California Fish and Wildlife Code Sections 2050-2116) parallels the FESA. As a responsible agency, CDFW has regulatory authority over species State listed as endangered and threatened. The State Legislature encourages cooperative and simultaneous findings between State and federal agencies. Consultation with CDFW is required for projects with the potential to affect listed or candidate species. CDFW would determine whether a reasonable alternative would be required for the conservation of the species. CESA prohibits the "take" of these species unless an ITP is granted. Under California Fish and Wildlife Code Section 2081 (ITP), CDFW can authorize the "take" of a listed species (with exception to fully protected species) if the "take" of the listed species is incidental to carrying out an otherwise lawful project that has been approved under the California Environmental Quality Act (CEQA). Section 2080.1 allows for "take" once an applicant obtains a federal ITP which can be approved (Consistency Determination letter) within 30 days by the CDFW Director. If the federal Incidental Take Statement is determined not to be consistent with CESA, then application for a State ITP (2081) is required.

The California Fish and Wildlife Code outlines protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are "fully protected" (FP) may not be taken or possessed at any time. CDFW has designated certain species native to California as Species of Special Concern to "focus attention on wildlife at conservation risk by the Department, other State, Local and Federal governmental entities, regulators, land managers, planners, consulting biologists, and others; stimulate research on poorly known species; achieve conservation and recovery of wildlife before they meet CESA criteria for listing as threatened or endangered."

2.2.2 State Fully Protected Species

The State of California designated species as FP prior to the creation of CESA and FESA. Lists of FP species were initially developed to provide protection to species that were rare or faced possible extinction/extirpation. Most FP species have since been State listed as threatened or endangered species. Under California Fish and Wildlife Code Section 4700, FP species may not be taken or possessed at any time.

In September 2011, the California Legislature sent the Governor legislation authorizing CDFW to permit the incidental take of 36 FP species pursuant to a NCCP approved by CDFW (Senate Bill 618 [Wolk]). The legislation gives FP species the same level of protection as provided under the NCCP Act for endangered and threatened species (California Fish and Wildlife Code § 2835). The NCCP Act, enacted in the 1990s, authorizes the incidental take of species "whose conservation and management" is provided for in a conservation plan approved by CDFW.

2.2.3 Sections 1600-1602 of the California Fish and Wildlife Code

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Wildlife 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. CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW limits of jurisdiction include the maximum extent of the uppermost bank-to-bank distance or riparian vegetation dripline.

2.2.4 California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Public Resources Code, Sections 21000-21177) requires that State and local agencies consider environmental consequences and project alternatives before a decision is made to implement a project requiring State or local government approval, financing, or participation by the State of California. In addition, CEQA requires the identification of ways to avoid or reduce environmental degradation or prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.

2.2.5 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. Rare plants protected by CDFW generally include species with CRPR 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered rare if the population has local significance in the area and is impacted by a project. Section 1913(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a ROW to allow a public utility to fulfill its obligation to provide service to the public.

When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel the FESA. The CESA converted all rare wildlife to threatened species under the NPPA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between the CDFW and a project proponent.

2.2.6 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code §§ 13000-13999.10) mandates that activities that may affect waters of the State shall be regulated to attain the highest quality. The SWRCB and the local RWQCB are the relevant permitting agencies. RWQCB provides regulations for a "non-degradation policy" that are especially protective of areas with high water quality. Porter-Cologne reserves the right for the State of California to regulate activities that could affect the quantity and/or quality of surface and/or ground waters, including isolated wetlands, within the State. Waters of the State include isolated waters that are no longer regulated by USACE. If the project is proposed to discharge into waters of the State, a Waste Discharge Report (WDR), or a waiver to WDRs, must be filed before beginning discharge.

2.3. LOCAL

Because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of local regulations relating to biological resources is provided for informational purposes.

2.3.1 County of San Diego General Plan

The *County of San Diego General Plan* provides direction for future growth in the unincorporated areas of San Diego County and provides policies related to land use, mobility, conservation, housing, safety, and noise. The *County of San Diego General Plan Land Use Element* provides a framework for managing future development in the County so that it is thoughtful of the existing character of the current communities and the sensitive natural resources within the County.

The *County of San Diego General Plan* contains the following relevant policies:

- **Conservation and Open Space (COS) Policy COS-1.2:** Minimize Impacts. Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.

- **COS Policy COS-1.3:** Management. Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

- **COS Policy COS-2.1:** Protection, Restoration and Enhancement. Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.

- **COS Policy COS-2.2:** Habitat Protection through Site Design. Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

2.3.2 City of Chula Vista General Plan

The City of Chula Vista General Plan provides a broad framework of policies, objectives, and land use designations to guide the future development of the City of Chula Vista. The zoning ordinance further refines the General Plan and provides additional detail pertaining to allowed and conditional uses and specific development standards for the various zoning districts.

The conservation vision for the City of Chula Vista is to "preserve and enhance the unique features that give Chula Vista its character and identity, while at the same time improving our community and meeting opportunities and challenges that lie ahead." To address this vision, the City of Chula Vista adopted the City of Chula Vista Multiple Species Conservation Plan (MSCP) Subarea Plan as part of its General Plan in May 2003. The Subarea Plan is the policy document through which the County of San Diego MSCP Subregional Plan is implemented within the City of Chula Vista's jurisdiction.

2.3.3 San Diego Multiple Species Conservation Plan

Under the NCCP Act of 1991, an MSCP has been developed for southwestern San Diego County in order to protect 85 species in the area. The MSCP was approved in 1997 and is the result of a joint planning effort between the County and the cities in the southwestern part of the county, including San Diego and Chula Vista. The County of San Diego, City of San Diego, and City of Chula Vista have each adopted subarea plans that conform to and implement the MSCP requirements.

2.3.4 County of San Diego Multiple Species Conservation Plan Subarea Plan

The County of San Diego MSCP Subarea Plan, adopted on October 22, 1997, covers the southwestern portion of the County's unincorporated area, and applies to unincorporated lands within the Survey Area. It serves to protect designated sensitive plant and wildlife species and their habitats depending on location and site characteristics. The San Diego County MSCP Subarea Plan is divided into three segments, one of which is the South County Segment (SCS). The SCS contains areas in which landowners have negotiated with the Wildlife Agencies and County for areas that will be set aside as preserve lands in perpetuity. In return, there are also areas approved for development. The Wildlife Agencies have agreed to the placement of conservation and development areas; accordingly, projects approved by the County consistent with the Subarea Plan SCS will not require additional approvals from the Wildlife Agencies. Wetlands impacts throughout the County Subarea will continue to be subject to the Federal Water Pollution Act and Fish and Game Code Section 1600 processes, as appropriate.

The SCS includes approximately 82,767 acres within the County jurisdiction, which includes approximately 48,240 acres of preserve area. The SCS covers substantial areas around the urban fringe of the southwestern portion of the County, from the international border to the Sweetwater River drainage, including major parts of the San Miguel, San Ysidro, and Jamul mountains.

The native vegetation of the SCS preserve area is dominated by coastal sage scrub and chaparral species. In addition, the largest stands of Tecate cypress (*Hesperocyparis forbesii*) woodland in the U.S. exist on the slopes of Otay and Tecate Peaks in the SCS. Other habitats in the preserve area include grasslands, coast live oak riparian forest, riparian forest, oak woodlands, and disturbed habitats.

2.3.5 City of San Diego Multiple Species Conservation Program Subarea Plan

The City of San Diego adopted its own MSCP Subarea Plan in 1997 to implement the regional MSCP. Divided into priority areas, the MSCP Subarea Plan designates the undeveloped canyons in the Otay Mesa area as protected coastal sage scrub habitat. New development must comply with the boundaries established by the MSCP Subarea Plan, including include restoration of coastal sage scrub when disturbed. In addition, the MSCP Subarea Plan includes policies and design guidelines specific to utility projects.

2.3.6 City of Chula Vista Multiple Species Conservation Program Subarea Plan

The City of Chula Vista MSCP Subarea Plan, which is part of the City of Chula Vista General Plan, was adopted in 2003 and provides for the conservation of covered species and their associated habitats, consistent with the regional plan. The subarea plan for Chula Vista shows land uses in the area of the Proposed Project to be designated under one of three categories: (1) development, (2) 100 Percent Conservation Areas – Habitat Preserve, and (3) Planned Active Recreation Area.

2.3.7 Otay Valley Regional Park Concept Plan

The County and the cities of San Diego and Chula Vista adopted the Otay Valley Regional Park Concept Plan after a multi-year planning effort to coordinate an interjurisdictional approach to park and recreational planning for the area. The plan calls for a regional park to extend from the salt ponds on the coast, through the Otay River Valley, to Upper and Lower Otay Lakes. The goal of the Otay Valley Regional Park Concept Plan is to provide policy direction to the three jurisdictions for the acquisition of properties and development of a regional park. The plan also provides for a regional trail system to be developed along the river, as well as viewpoints, recreational areas, and two interpretive centers. The plan calls for sensitive areas within the boundaries established by the San Diego MSCP to be designated as Open Space/Core Preserve Areas. Efforts toward implementation of this plan have been made by the cooperating jurisdictions, including the partial development of a trail system and a large acquisition of open space by the County. The portions of the regional trail system that have been developed are outside of the Proposed Project area, but the land acquired for open space by the County is located immediately south of the Proposed Project.

2.3.8 County of San Diego Tree Ordinance

The San Diego Regulatory Code of Ordinances, Title 7, Division 1, Chapter 5 regulates the planting, trimming, and removal of trees on County-owned property and County highways. The Proposed Project is anticipated to occur within SDG&E's ROW, and no conflicts should occur with any other conservation plans or County tree ordinances.

2.4. EXISTING SAN DIEGO GAS & ELECTRIC COMPANY PLANS

2.4.1 SDG&E Subregional Natural Community Conservation Plan

In December 1995, the USFWS and CDFW approved the *SDG&E Subregional NCCP*, developed in coordination with such agencies that address potential impacts to species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems. Also included in the NCCP are guidelines pertaining to the typical expansion to SDG&E's systems throughout much of its existing service territory. As a part of the *SDG&E Subregional NCCP*, SDG&E has been issued incidental take permits (Permit PRT-809637) by the USFWS and CDFW for 110 covered species. The *SDG&E Subregional NCCP* was developed by following the multiple species and habitat conservation planning approach. In addition to implementing the *SDG&E Subregional NCCP*, SDG&E's goal is to avoid "take" of covered species whenever possible and to implement measures to avoid and minimize any take to the maximum extent possible. The *SDG&E Subregional NCCP* includes avoidance and minimization measures and operational protocols that apply to construction as well as to operations and maintenance activities. In approving the NCCP, the USFWS and CDFW determined that the avoidance and minimization measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable. The agencies also determined that the NCCP ensured the protection and conservation of federal and state listed species and covered species.

The Proposed Project falls within the area where SDG&E's utility operations are governed by the NCCP. Nevertheless, SDG&E will not seek incidental take coverage for temporary and permanent impacts to natural habitat resulting from construction of the Proposed Project through the NCCP, and SDG&E will not rely on the mitigation bank associated with the NCCP to fulfill the mitigation requirements for those impacts. SDG&E will instead consult with USFWS and CDFW for compliance with the FESA and CESA for construction of the Proposed Project. Compliance may require a Proposed Project-specific ITP under Section 10 of the FESA and California Fish and Game Code Section 2081. Any Proposed Project-specific ITP will require mitigation consistent with the mitigation requirements in the NCCP. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

2.4.2 SDG&E Low-Effect Habitat Conservation Plan for Quino Checkerspot Butterfly

The QCB received federal protection under the FESA in 1997 (USFWS 2002). Although not covered under SDG&E's NCCP, an HCP was created by SDG&E and USFWS, and QCB is covered under the SDG&E Low-Effect Quino Checkerspot Butterfly HCP. SDG&E's Low-Effect HCP for QCB includes the majority of the Project area, from Location 18 east and south to the border substation. Lands outside of the HCP mapped area are considered unsuitable for QCB under the HCP, and no additional surveys or mitigation is required for activities covered under the Low-Effect HCP occurring outside of the mapped area. The Low-Effect HCP addresses potential impact to the QCB from the use, maintenance, and repair of existing gas and electric facilities and allows for typical expansions to those systems. Other than maintenance of existing access roads, SDG&E activities include, without limitation, all current and future actions arising out of, or in any way connected with, the siting, design, installation, construction, use, maintenance, operation, repair, and removal of facilities within SDG&E's service territory. Pole and tower replacement is one example of these covered activities.

The Low-Effect HCP emphasizes protection of habitat through impact avoidance and use of operational protocols designed to avoid or minimize impacts to the QCB. The Low-Effect HCP was prepared in consultation with the USFWS to fulfill the requirements of an FESA Section 10(a)(1)(B) permit application for SDG&E activities.

SDG&E proposes to conduct fire-hardening activities on an existing power line. These actions will increase the fire safety and service reliability of existing facilities and continue ongoing operation and maintenance activities for these facilities. Therefore, all the activities associated with the Proposed Project are covered by the Low-Effect HCP.

The Low-Effect HCP for QCB established mitigation ratios for both temporary and permanent impacts to QCB suitable occupied and unoccupied habitat as a result of SDG&E activities occurring within the Low-Effect HCP Mapped Area.

SECTION 3.0 – METHODS

3.1. DEFINITIONS

Species were considered special-status and evaluated in this report if the species met one of more of the following criteria: 1) plants or wildlife listed as threatened, endangered, or candidates under the FESA; 2) plants or wildlife listed as threatened, endangered, or candidates under the CESA; 3) plant species considered rare or with a CRPR rank of 1 or 2; or, 4) wildlife designated as fully protected or species of special concern by the CDFW.

Species that fall under the following categories are not considered special-status are also discussed: Birds of Conservation Concern (BCC), and California Watch List (WL) species. The following information is a list of abbreviations used to help determine the significance of biologically sensitive (protected) resources potentially occurring within the Survey Area.

Federal

FE = Federally Listed; Endangered
FT = Federally Listed; Threatened
FC = Federal Candidate Species
BCC = Birds of Conservation Concern

State

ST = State listed; Threatened
SE = State listed; Endangered
RARE = State-listed; Rare (Listed “Rare” wildlife has been redesignated as Threatened, but Rare plants have retained the Rare designation)
SSC = State Species of Special Concern
FP = State Fully Protected
WL = California Watch List Species
WBWG = Western Bat Working Group

California Rare Plant Rank (CRPR)

1A = Plants presumed extinct in California
1B = Plants Rare and Endangered in California and throughout their range
2 = Plants Rare, Threatened, or Endangered in California but more common elsewhere in their range
3 = Plants about which we need more information; a review list
4* = Plants of limited distribution; a watch list

*CRPR 4 species are not generally identified in the literature and database review. However, if a List 4 species was observed during the focused plant surveys, this species was documented (Table 7).

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 to 80 percent occurrences threatened)
0.3 = Not very endangered in California (less than 20 percent of occurrences threatened)

3.2. LITERATURE AND DATABASE REVIEW

Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CDFW 2014), the USFWS Species Occurrence Database (USFWS 2014), and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2014) were reviewed for the quadrangles containing and surrounding the Survey Area (i.e., *Imperial Beach* and *Otay Mesa* USGS 7.5-minute quadrangles); a five-mile radius surrounding the Proposed Project ROW was reviewed. CNDDB contains records of reported occurrences of federal or state listed species, proposed endangered or threatened species, Federal Birds of Conservation Concern, California SSC, or otherwise special-status species or habitats that may occur within or in the vicinity of the Survey Area. This database and literature review was used to provide details on species that have a potential to occur within the Survey Area prior to conducting focused survey efforts. Specific criteria for evaluating special-status plant and wildlife species are described below.

3.3. PRELIMINARY EVALUATION OF POTENTIAL FOR OCCURRENCE

Following the literature and database review, Chambers Group biologists conducted a preliminary habitat assessment reconnaissance-level survey of the Proposed Project area from April 10 through April 23, 2014. Using information from the literature review and reconnaissance survey, specific criteria for potentials for occurrence (PFO) (Table 2) were applied to evaluate special-status plant and wildlife species identified in the literature review. Species identified during the literature review were designated a preliminary PFO ranging from low to high.

Table 2:
Criteria for Evaluating Special-Status Plant and Wildlife Species Potential for Occurrence

PFO	CRITERIA
Absent:	Species is restricted to habitats or environmental conditions that do not occur within the Survey Area, or a species was not observed within Survey Area during focused surveys.*
Low:	Historical records for this species do not exist within the immediate vicinity (approximately five miles) of the Proposed Project site, 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 Project site (approximately five miles) and marginal habitat exists within 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 five miles of the Proposed Project site.
High:	Both a historical record exists for the species within the Proposed Project site or its immediate vicinity (approximately five miles), 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.

* Perennial plant species that were not observed were considered absent from the Survey Area, while herbaceous or perennial bulb species that were not observed, but that cannot be confirmed absent from the Survey Area due to 2013 and 2014 drought conditions are "presumed absent."

3.4. VEGETATION SURVEYS

3.4.1 Habitat Communities

All plant species observed within the Survey Area were recorded. Plant communities within the Survey Area were identified, qualitatively described, and mapped onto aerial photographs. The mapped plant communities were digitized in Geographic Information System (GIS), and acreages were calculated within the survey buffer. The plant communities were identified following criteria presented by Sawyer et al. (2009).

3.4.2 Special-Status Plant Surveys

Due to the presence of environmental conditions suitable for multiple special-status plant species to occur within the Survey Area, a series of focused plant surveys for specific target species were completed. Two separate surveys were conducted in spring 2014 within the Survey Area to capture the blooming periods for each of the 53 targeted species with a low, moderate or high PFO. Three categories of special-status plant species were targeted. Category 1 species targeted all federally threatened or endangered plant species, Category 2 targeted all state threatened or endangered plant species, and Category 3 targeted plants not listed as federally and/or state threatened or endangered with a CRPR of 1 or 2. Special-status plant species targeted during the surveys are included in Table 3.

Table 3: Special-Status Plant Species with a Potential to Occur Within the Survey Area

Common Name (*Scientific Name*)	Status Federal/State/CRPR
San Diego thorn-mint (*Acanthomintha ilicifolia*)	FT/CE/CRPR 1B.1
Nuttall's acmispon (*Acmispon prostratus*)	--/--/CRPR 1B.1
California adolphia (*Adolphia californica*)	--/--/CRPR 2B.1
San Diego bur sage (*Ambrosia chenopodiifolia*)	--/--/CRPR 2B.1
Singlewhorl burrobush (*Ambrosia monogyra*)	--/--/CRPR 2B.2
San Diego ambrosia (*Ambrosia pumila*)	FE/--/ CRPR 1B.1
Otay manzanita (*Arctostaphylos otayensis*)	--/--/CRPR 1B.2
Dean's milk vetch (*Astragalus deanei*)	--/--/CRPR 1B.1
Coulter's saltbush (*Atriplex coulteri*)	--/--/CRPR 1B.2
South coast saltscale (*Atriplex pacifica*)	--/--/CRPR 1B.2
Encinitas baccharis (*Baccharis vanessae*)	FT/CE/CRPR 1B.2
Golden-spined cereus (*Bergerocactus emoryi*)	--/--/CRPR 2B.2
San Diego golden star (*Bloomeria clevelandii*)	--/--/CRPR 1B.1
Orcutt's brodiaea (*Brodiaea orcuttii*)	--/--/CRPR 1B.1
Round-leaved filaree (*California macrophylla*)	--/--/CRPR 1B.1
Dunn's mariposa-lily (*Calochortus dunnii*)	--/RARE/CRPR 1B.2
Lakeside ceanothus (*Ceanothus cyaneus*)	--/--/CRPR 1B.2
Otay Mountain ceanothus (*Ceanothus otayensis*)	--/--/CRPR 1B.2
Wart-stemmed ceanothus (*Ceanothus verrucosus*)	--/--/CRPR 2B.2
Salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum*)	FE/CE/CRPR 1B.2
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	--/--/CRPR 1B.2
Delicate clarkia (*Clarkia delicata*)	--/--/CRPR 1B.2

Table 3: Special-Status Plant Species with a Potential to Occur Within the Survey Area

Common Name (*Scientific Name*)	Status Federal/State/CRPR
San Miguel savory (*Clinopodium chandleri*)	--/--/CRPR 1B.2
Summer holly (*Comarostaphylis diversifolia* subsp. *diversifolia*)	--/--/CRPR 1B.2
Snake cholla (*Cylindropuntia californica*)	--/--/CRPR 1B.1
Otay tarplant (*Deinandra conjugens*)	FT/CE/CRPR 1B.1
Orcutt's bird's-beak (*Dicranostegia orcuttiana*)	--/--/CRPR 2B.1
Variegated dudleya (*Dudleya variegata*)	--/--/CRPR 1B.2
Palmer's Goldenbush (*Ericameria palmeri* var. *palmeri*)	--/--/CNPS 1B.1
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	FE/CE/CRPR 1B.1
Cliff spurge (*Euphorbia misera*)	--/--/CRPR 2B.2
San Diego barrel cactus (*Ferocactus viridescens*)	--/--/CRPR 2B.1
Mexican flannelbush (*Fremontodendron mexicanum*)	FE/RARE/CRPR 1B.1
Tecate cypress (*Hesperocyparis forbesii*)	--/--/CRPR 1B.1
Beach goldenaster (*Heterotheca sessiliflora* subsp. *sessiliflora*)	--/--/CRPR 1B.1
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	--/--/CRPR 1B.2
San Diego marsh-elder (*Iva hayesiana*)	--/--/CRPR 2B.2
Coulter's goldfields (*Lasthenia glabrata* subsp. *coulteri*)	--/--/CRPR 1B.1
Gander's pitcher sage (*Lepechinia ganderi*)	--/--/CRPR 1B.3
Jennifer's monardella (*Monardella stoneana*)	--/--/CRPR 1B.2
Mud nama (*Nama stenocarpum*)	--/--/CRPR 2B.2
Spreading navarretia (*Navarretia fossalis*)	FT/--/CRPR 1B.1
Coast woolly-heads (*Nemacaulis denudata* var. *denudata*)	--/--/CRPR 1B.2
California Orcutt grass (*Orcuttia californica*)	FE/CE/CRPR 1B.1
Baja California birdbush (*Ornithostaphylos oppositifolia*)	--/CE/CRPR 2B.1
Otay mesa mint (*Pogogyne nudiuscula*)	FE/CE/CRPR 1B.1
Nuttall's scrub oak (*Quercus dumosa*)	--/--/CRPR 1B.1
Santa Catalina Island currant (*Ribes viburnifolium*)	--/--/CRPR 1B.2
Small-leaved rose (*Rosa minutifolia*)	--/CE/CRPR 2B.1
Munz's sage (*Salvia munzii*)	--/--/CRPR 2B.2
Chaparral ragwort (*Senecio aphanactis*)	--/--/CRPR 2B.2
Purple stemodia (*Stemodia durantifolia*)	--/--/CRPR 2B.1
Parry's tetracoccus (*Tetracoccus dioicus*)	--/--/CRPR 1B.2

Focused plant surveys for these target species were performed in accordance with survey protocols set forth by CDFW, CNPS, and USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (CDFW 2009; CNPS 2001; USFWS 2000). Species identified as being sensitive and having the potential to occur within the Survey Area were reviewed by Chambers Group botanists prior to the beginning of surveys each day. Botanists walked transects within the Survey Area spaced approximately 30 feet apart and visually surveyed for any signs of the targeted plant species. A complete inventory of all plant species observed within the Survey Area was prepared. Sensitive plant species observed during the survey were documented by counting individuals or estimating numbers for larger populations, characterizing the approximate population size, and recording a Global Positioning System (GPS) location.

Areas that were designated as private property separated by fences and signs were not accessed on foot; surveys were conducted by binocular from outside the property boundary unless specific permission to enter was granted by the landowner. The Donovan State Prison property was surveyed by binoculars from pole Locations 89 to 97. The Proposed Project work areas are located west of the prison area, and all habitats west of the prison were surveyed on foot. The first round of surveys commenced on April 10, 2014 and concluded April 23, 2014. The second round of surveys commenced on June 2, 2014 and concluded on June 12, 2014.

Surveys were conducted by a team consisting of four or five botanists daily. Each team consisted of a technical lead and a team lead. The technical leads were considered expert botanists with many years of plant identification and taxonomy experience as well as specialized knowledge of San Diego flora. The team lead was responsible for maintaining consistency among team members and ensuring each team member within each group was walking an appropriate distance between adjacent team members and at a pace suitable for thorough investigation. The team lead tracked team progress within the appropriate survey periods. Seven Chambers Group botanists participated in the surveys (Table 4).

Table 4: Plant Survey Dates and Participating Staff

Survey Period	Surveyor Name						
04/10/2014 – 04/23/2014	Rebecca Alvidrez [†]	Maya Mazon [†]	John Dicus	Melanie Dicus *	Margie Mulligan *	Ryan Mezzaros	Christina Congedo
06/02/2014 – 06/12/2014	Rebecca Alvidrez [†]	Maya Mazon [†]	John Dicus	Melanie Dicus *	Christina Congedo		

Note: *** Denotes technical lead.**
[†] Denotes team lead.

3.4.3 Weather Conditions (2014)

Southern California is facing the worst drought in recorded history (National Oceanic and Atmospheric Administration, 2014). Precipitation in 2014 was well below the average for San Diego County (Table 5). The below average precipitation and above average temperatures may have reduced the occurrences of sensitive plants during the surveys (e.g., the density of annual species such as Otay tarplant may have been lower than historically recorded during times of above-average rainfall). Many plants will go into early dormancy without sufficient water; during dormancy, the plants often forego producing flowers and may not be evident.

Table 5: Weather Conditions of San Diego County (April-August 2014)

Month (2014)	Total Precipitation (inches)	Weather Conditions & Storm Events
April	0.57	No storm events. Above average temperatures.
May	0.02	No storm events. Above average temperatures.
June	none	No storm events. Above average temperatures.
July	0.06	No storm events. Above average temperatures.
August	none	No storm events. Above average temperatures.

Abiotic Factors

Additional abiotic factors may have played a role in the change in population sizes and detection of sensitive plant species as well as in the distribution of sensitive wildlife species. For example, species may have been impacted by above-average seasonal temperatures, recent and or past wildfires, an increase in soil salinity due to recent road re-establishment, and soil erosion.

3.5. JURISDICTIONAL DELINEATION SURVEYS

A formal jurisdictional delineation following the guidelines set forth by the USACE (1987, 2008) was performed by RECON Environmental, Inc. (RECON) and Chambers Group to gather field data at potential wetland sites. Wetland specialists delineated potential jurisdictional waters within the Survey Area (Appendix K).

3.5.1 USACE Wetland

According to the USACE *Wetland Delineation Manual*, wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to USACE, all three parameters must be present to qualify as a wetland.

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 within the Survey Area were surveyed on foot for those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation units with potential wetland areas were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on standardized datasheets from the Arid Supplement (USACE 2008). The absolute cover of each plant species present was visually estimated and recorded.

The wetland indicator status of each species recorded was determined by using the *National Wetland Plant Inventory* (Lichvar et. al. 2014). An obligate (OBL) indicator status refers to plants that are almost always a hydrophyte and rarely in uplands. A facultative wet indicator status refers to plants that usually are a hydrophyte, but are occasionally found in non-wetlands. A facultative indicator status refers to plants that commonly occur as either a hydrophyte or non-hydrophyte. Facultative upland species occasionally are a hydrophyte, but usually occur in uplands. Upland species almost always occur in uplands, and rarely are a hydrophyte. A not indicated (NI) status refers to species that have insufficient data available to determine an indicator status at this time, for the local region. Plant species nomenclature follows that contained in *the Jepson Online Interchange* (Jepson Flora Project 2014). Dominant species with an indicator status of NI or not listed in the 1997 list were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats characteristic of southern California.

Hydric Soils

A hydric soil is a soil type 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). The hydric soil criterion is considered fulfilled at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation exists, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present.

A sampling point was selected within a potential wetland area where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. The soil pit was dug to a depth of at least 18 inches or to a depth necessary to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, gleying, and sulfidic odor). In areas where the direct examination of soil pits were precluded by the pretense of federally endangered species (i.e., fairy shrimp), hydric soils were inferred based on the presence of vegetation and hydrology indicators.

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 fulfilled 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 point, the wetland hydrology criterion is considered fulfilled.

Vernal Pools

Vernal pools are often difficult to characterize as a wetland because one or more of the wetland parameters (soils, hydrology, and vegetation) may be periodically lacking due to variations in environmental conditions (USACE 1987). Furthermore, vernal pools located within access roads are subject to vehicular disturbance and, in the absence of vegetation, constitute an “atypical situation.” Alternative methods described in the *Arid West Supplement* were used to delineate wetland areas. Potential vernal pools lacking vegetation were assessed based on presence of hydrology indicators, local relief and landscape position, vegetation within reference sites, aerial imagery, documented or likely presence of USACE vernal pool indicator species, and other background information.

In addition, no soil tests pits were dug due to the documented presence of the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*; AECOM 2009) within the Survey Area. Hydric soils in vernal pools were inferred based on the presence of strong hydrology indicators. Vernal pool watersheds were visually based on changes in the local microtopography and documented using a hand-held GPS unit with sub-meter accuracy.

3.5.2 USACE Non-wetland Waters of the United States

The USACE also requires the delineation of non-wetland jurisdictional waters of the United States. These waters must have strong hydrology indicators such as the presence of seasonal flows and an OHWM. An OHWM is defined as:

> . . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR Part 328.3).

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric-soil characteristics. Hydric-soil indicators may be missing because topographic position precludes ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the ordinary high watermark of the particular drainage or depression.

3.5.3 CDFW Jurisdictional Waters

Under Sections 1600–1607 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., riparian woodland) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. Though CDFW does not regulate vernal pools under Section 1602 of the Fish and Game Code, CDFW will assert jurisdiction over California state threatened and/or endangered species occurring within vernal pools via the CESA.

3.5.4 RWQCB Jurisdictional Waters

The RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes waters of the state as mandated by both the federal CWA Section 401 and the California Porter-Cologne Water Quality Control Act. The RWQCB can assert jurisdiction over hydrologically isolated vernal pools as “isolated waters” under the Porter-Cologne Water Quality Act.

3.6. FOCUSED WILDLIFE SURVEYS

Due to the presence of environmental conditions suitable for multiple sensitive wildlife species to occur within the Survey Area, a series of focused wildlife surveys for specific target species were completed or are scheduled to be completed according to the guidelines set forth by the USFWS. Surveys for sensitive wildlife species with a potential for occurrence on site are described below.

3.6.1 Quino Checkerspot Butterfly

A formal habitat assessment within areas of the Proposed Project occurring within the SDG&E QCB HCP Mapped Area was conducted by Chambers Group and Blackhawk Environmental (Blackhawk) during the 2015 adult flight season. Suitable QCB Habitat is defined in SDG&E’s Low-Effect HCP for QCB as:

> *"shrub communities, such as coastal sage scrub, chaparral, and desert scrub, with 50 percent shrub cover or less, and the potential to support dot-seed plantain* [Plantago erecta] *and other larval host plants. Areas that meet the shrub cover standard are excluded if the ground cover vegetation is disturbed and/or covered by understory vegetation to the extent that larval host plants do not grow. Areas of solid rock substrate and the surfaces of solidly compacted access roads which are not likely to support vegetation are also excluded. All areas of vernal pool complexes are included as Suitable QCB Habitat regardless of upland vegetation surrounding the vernal pools. Areas meeting the 50 percent shrub cover with QCB Host Plants, native herbaceous species, cryptobiotic crusts, or the potential to support any of these elements are included as Suitable QCB Habitat. Also included in Suitable QCB Habitat for this Plan are all native grasslands and non-native grasslands that show evidence of potential to support larval host plants. Evidence for a potential to support larval host plants included presence of native grasses, native wildflowers, and cryptobiotic crusts."*

A habitat assessment for QCB was conducted to determine QCB suitable and unsuitable habitat pursuant to the HCP. The habitat assessment resulted in areas identified by the biologists as unsuitable for QCB based on the criteria described above. Therefore, these unsuitable areas were not included in the ensuing protocol level survey effort conducted during the 2015 adult flight season for QCB.

Based on the results of the habitat assessment, the Survey Area for QCB was divided into three sections: Section 1 extended from Location 103 to Location 82 (parallel to the west side of the Richard J. Donovan Correctional Facility grounds); Section 2 extended from Location 82 to Location 70 (access roads and main north-south/east-west tangent area); and Section 3 extended from Location 70 to Location 18 (south side of the Otay River Valley). Section 1 contained 24.40 acres of included QCB survey habitat within 47.57 total acres; Section 2 contained 20.27 acres of included QCB survey habitat within 25.86 total acres; and Section 3 contained 22.99 acres of included QCB survey habitat within 142.20 total acres.

The first survey after the habitat assessment on February 17, 2015 included a search of the open patches between shrubs and other open areas for the potential presence of larval host plants, as well as nectar sources. All host plant patches were mapped using a submetric Trimble GPS unit or directly onto high-resolution aerial maps for follow-up GIS translation. Host plant patches were characterized as low, moderate, or high density as appropriate. Low density patches generally contained 10 or fewer individual host plants per 11 square feet (one square meter); moderate density patches generally contained 10-100 individual host plants per 11 square feet; and high density patches generally contained 100 or more individual host plants per 11 square feet.

QCB surveys were conducted during favorable weather conditions in late morning/early afternoon hours. A total of 12 surveys were completed for each section per the USFWS *2014* Quino *Checkerspot Butterfly Survey Guidelines*, resulting in 36 surveys overall. The surveys were performed by carefully walking slowly through and adjacent to QCB-suitable habitats delineated during the initial habitat assessment while looking for QCB adults. Care was taken on each step to examine the ground before setting foot in order to minimize or avoid the chance of accidentally stepping on larvae. Surveying biologists looked for QCB presence throughout the duration of each survey, using binoculars and/or the naked eye, as appropriate. All QCB-relevant data and butterfly species were recorded in the field notes of the biologists. Complete details of the survey effort including survey conditions are provided in the *TL-649 Quino Checkerspot Butterfly Survey Results 45-Day Report*) prepared for SDG&E by Chambers Group and Blackhawk (Appendix J). A summary of results is also provided in Section 4.7.4 of this report.

3.6.2 Coastal California Gnatcatcher and Coastal Cactus Wren

Habitat Assessment

A habitat assessment was conducted for the CAGN and CACW during the first round of focused plant surveys conducted from April 10 to April 23, 2014. Suitable habitat for both species was identified during the survey effort. Due to the extensive nature of suitable CAGN habitat and suitable CACW habitat within the Survey Area, unique numbers were assigned to patches of suitable habitat to accurately document observed individuals during the 2014 survey effort. Subsequent surveys were conducted in all areas that contained suitable nesting habitat for the target species. Details on surveyors and survey dates are provided in the *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Coastal California Gnatcatcher and Coastal Cactus Wren Focused Survey Report* prepared for SDG&E by Chambers Group (Appendix G). A summary of results are also provided in Section 4.7.1 of this report.

Survey Methods

All CAGN focused surveys were conducted by biologists holding the necessary FESA section 10(a)(1)(A) survey permit. Surveys were conducted according to the USFWS presence or absence survey guidelines (USFWS 1997). No survey protocol for CACW exists; therefore, these surveys occurred concurrently with CAGN surveys.

The Survey Area was located within SDG&E's NCCP boundaries. Per section III of the USFWS presence or absence survey guidelines (USFWS 1997), three focused surveys were conducted at least one week apart in areas of suitable habitat between the hours of 0600 and 1200. Periods of excessive or abnormal heat, wind, fog, and other inclement weather were avoided, and no more than 80 acres (32 hectares) were surveyed per biologist per day.

Surveys were conducted by biologists slowly walking transects within suitable habitat within the Survey Area and using binoculars to achieve 100 percent visual coverage. All cacti encountered were visually searched for CACW nests. Taped vocalizations were used only to initially locate individual CAGN, and tapes were not used frequently or to further elicit behaviors from any previously detected individuals. Information was recorded on the survey methods performed, including number of acres surveyed per biologist per day, start and stop times of survey, weather conditions, survey routes delineated on maps, and how frequently taped vocalizations were used.

Data was collected on the number, approximate age, class, sex, and color band information (if any were observed). All CAGN and CACW detections (e.g., vocalization, foraging behavior, and nesting behavior) were recorded using hand-held GPS units and photo documented when possible. Comprehensive results of these surveys were presented in the *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Coastal California Gnatcatcher and Coastal Cactus Wren Focused Survey Report* prepared for SDG&E by Chambers Group (Appendix G).

3.6.3 Riparian Birds

Habitat Assessment

During the initial round of focused plant surveys conducted from April 10 to April 23, 2014, a habitat assessment was conducted for special-status riparian birds. All suitable riparian habitat for the LBVI, SWFL, and WYBC locations were identified by Chambers Group biologists in April 2014 and confirmed during the initial round of focused surveys for CAGN (April 23 and April 25, 2014). Suitable habitat was determined to be present for LBVI, SWFL, and WYBC. Protocol level focused surveys were conducted during the appropriate 2014 survey periods for the three species. Surveys were conducted in all areas that contained riparian habitat suitable for nesting of the target species. Details on the dates surveyed can be found in *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Riparian Birds Focused Survey Report* prepared for SDG&E by Chambers Group (Appendix H). A summary of results can also be found in Section 4.7.2 of this report.

Survey Methods

USFWS-permitted biologist Travis Cooper conducted focused survey for SWFL in accordance with USFWS approved guidelines (Sogge et. al. 2010) in order to determine the presence or absence of SWFL within suitable habitat within the Survey Area. Suitable breeding habitat for SWFL is composed of dense, well-developed riparian woodland comprised of species such as willows (*Salix* spp.) and mulefat (*Baccharis salicifolia* subsp. *salicifolia*) in patches of at least two acres or greater, with linear-shaped habitats at least 33 feet wide (Sogge et al. 2010) and a permanent source of surface water in mid-summer months.

Qualified avian biologists Philip Howard, Ian Maunsell, and Travis Cooper conducted focused surveys for LBVI in accordance with USFWS approved guidelines (USFWS 2001) to determine the presence/absence of LBVI within suitable habitat within the Survey Area.

CDFW-permitted biologist Travis Cooper conducted focused WYBC surveys in accordance with CDFW-approved guidelines (Halterman et al. 2011) to determine the presence or absence of WYBC within suitable habitat within the Survey Area. Comprehensive results of these surveys were presented in the *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Riparian Birds Focused Survey Report* prepared for SDG&E by Chambers Group (Appendix H). A summary of results can also be found in Section 4.7.2 of this report.

3.6.4 Western Burrowing Owl

Habitat Assessment

In accordance with survey guidelines contained in the *CDFW Burrowing Owl Staff Report* (CDFW 2012), an initial habitat assessment for BUOW was conducted on April 18, 2014. The assessment was performed by systematically searching for potential foraging and nesting habitat within the Survey Area and within an additional buffer area to cover a total of 492 foot (150 meter) buffer around Proposed Project components. Suitable habitat was identified by the presence of low vegetation cover; presence of potential burrows; perch sites; and/or BUOW signs such as scat, tracks, pellets, or feathers (CDFW 2012). Details on the dates surveyed can be found in *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Burrowing Owl Report* prepared for SDG&E by Chambers Group (Appendix I). A summary of results can also be found in Section 4.7.2 of this report.

Survey Methods

Following the initial habitat assessment, Chambers Group biologists conducted three focused breeding season surveys for BUOW throughout the Proposed Project Survey Area in spring of 2014. An additional round of four non-breeding season surveys was performed in winter of 2014 and 2015 to evaluate presence/absence of BUOW at the Main Street Staging Yard, which was added to the Proposed Project after the completion of the spring 2014 surveys. Both breeding and non-breeding season surveys were completed throughout the entire Survey Area, accounting for two complete survey passes within the Survey Area and adjacent habitat, with the exception of one round of surveys for the Main Street Staging Yard. During breeding and non-breeding season surveys, the BUOW Survey Areas included the adjacent 492 foot buffer area within suitable habitat identified during the habitat assessment. Each survey was conducted by walking transects spaced no more than 100 feet apart throughout the Survey Area and buffer area to allow for 100 percent visual ground coverage. The locations of all suitable burrows, sign, and individuals observed were recorded and mapped using GPS coordinates. Burrows were mapped as active, potential, or inactive. Active burrows were determined by presence of eggs or chicks. Potential burrows were determined by the presence of fresh pellets, prey remains, whitewash, or decorations. Inactive burrows were determined as those capable of supporting BUOW but with no signs of recent use. Surveys were conducted during weather that would not adversely affect the ability to detect BUOW or their sign. The survey was not performed during periods of rain or dense fog, high winds (greater than 20 miles per hour, or temperatures over 90 degrees Fahrenheit (°F). Surveys were conducted within one hour before sunrise to two hours after sunrise to provide the highest detection probabilities. Comprehensive results of both breeding and non-breeding season surveys are presented in the *2014 Tie-Line 649 Wood to Steel Pole Replacement Project Burrowing Owl Report* prepared for SDG&E by Chambers Group (Appendix I).

3.6.5 Fairy Shrimp

The 1997 USFWS protocol *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Brachiopods* (fairy shrimp) includes up to two years of wet season surveys done within a five-year period or two consecutive seasons of one full wet season survey and one dry season survey for the vernal pool/swale complex. Two fairy shrimp species, San Diego fairy shrimp (*Branchinecta sandiegoensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*), have a high potential to occur within the Survey Area based on the proximity of known occurrences and potential connectivity to USFWS Critical Habitat for these species. Focused surveys for these species were not conducted during 2013 or 2014 due to severe drought conditions. SDG&E proposes to initiate protocol level surveys for fairy shrimp in 2015 dry season to determine the presence and potential locations of sensitive fairy shrimp species occurring within the Survey Area. Ensuing wet season surveys will be conducted in 2015/2016 if favorable wet season conditions allow for protocol completion prior to the Project's construction.

Habitat Assessment

The fairy shrimp habitat assessment was conducted concurrently with, and as an additional evaluation to, the jurisdictional delineation effort. Prior to the field delineation, high-resolution aerial photographs, USFWS National Wetlands Inventory (NWI) maps (USFWS NWI 2014), USGS National Hydrography Dataset, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2014) were referenced for mapped wetlands and soil types found within the Survey Area. Topographic maps and aerial photographs (Google 2014) were used to identify drainage patterns and hydrological connectivity through the Survey Area. Additional information regarding occurrences of sensitive fairy shrimp species was reviewed in the CNDDB, USFWS species occurrence database, and past technical reports for the Survey Area. Because fairy shrimp are known to occur within marginal habitats and may persist outside of natural vernal pool areas, the habitat assessment also took into consideration potential fairy shrimp habitat other than jurisdictional vernal pools. For the purposes of the fairy shrimp habitat assessment, all permanent or semi-permanent seasonally ponded areas (such as road ruts), which lacked fill or other evidence of regular maintenance (i.e., grading), that were likely or observed to support water of at least 1.95 inches (three centimeters) within 24 hours following a rain event were considered suitable habitat for fairy shrimp.

Consideration of the climate and flow frequency (drought conditions for 2013/2014) was taken into account when potential vernal pools and otherwise seasonally ponded areas that may support vernal pool species such as fairy shrimp. Field biologists searched for the presence of polygonal cracking on the soil surface, which is indicative of seasonally wetted areas. Characteristics of wetland hydrology such as surface staining, inundation, and cracking were noted. Vegetation within the vernal pools was documented, including the presence of vernal pool indicator plant species. Other site characteristics and ambient site specific disturbance levels were also noted, including evidence of grading, fill, vehicular traffic, etc. Site conditions and photographs of the vernal pools were documented during the field effort.

The field jurisdictional delineation surveys were conducted by RECON on May 14 and 22, 2014 and July 28, 2014. An additional survey was conducted by Chambers Group and RECON on November 3, 2014 following a rain event to identify areas where ponding occurred. The boundaries of the ponded areas and areas where there was hydrologic evidence of ponding (saturated or wetted soils) were mapped. The survey effort included all seasonally wetted areas, which included non-jurisdictional road ruts, which may support fairy shrimp. The purpose of the survey effort was to fully document the existing conditions of potential fairy shrimp habitat within the Survey Area. These mapped locations are included in Appendix K and will be used as a baseline for fairy shrimp habitat when protocol level surveys are conducted.

3.6.6 General Wildlife and Other Special-Status Species

During focused survey efforts, all wildlife observed and wildlife sign detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded and are included as Appendix C. Additional survey time was spent in those habitats most likely to be utilized by wildlife (e.g., undisturbed native habitat, wildlife trails) or in habitats with the potential to support State and/or federally listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site. The sensitive wildlife species with a potential to occur within the Survey Area are described in Section 5.5.

SECTION 4.0 – RESULTS AND DISCUSSION

4.1. ECOSYSTEMS

The Survey Area includes 370.54 acres and supports a variety of vegetation communities (Table 6). A total of 30 distinct vegetation communities were mapped within the Survey Area based on descriptions in Sawyer et al. (2009).

Table 6: Vegetation Communities within the Survey Area

Vegetation Communities	Size (Acres)*
Annual Brome Grassland	80.55
Arroyo Willow – Mulefat Woodland	0.30
Bare Ground	34.27
Black Willow Forest	0.87
Bulrush Marsh	0.03
California Sagebrush-California Buckwheat Scrub	58.80
Castor Bean Thicket	0.52
Coast Prickly Pear Scrub	27.91
Creeping Ryegrass Grassland	0.06
Disturbed Areas	43.08
Disturbed California Sagebrush-California Buckwheat Scrub	0.97
Disturbed Coast Prickly Pear Scrub	5.26
Disturbed Mulefat Thicket	0.90
Fremont Cottonwood Forest	0.71
Giant Reed Break	0.09
Landscape/Ornamental	6.14
Lemonade Berry Stand	2.45
Mulefat Thicket	0.82
Pale Spike Rush Marsh	0.02
Purple Needlegrass Grassland	24.62
San Diego Mesa Claypan Vernal Pool	0.56
San Diego Mesa Claypan Vernal Pool Native Grassland Mix	11.74
Disturbed San Diego Mesa Claypan Vernal Pool	0.24
Singlewhorl Burrobush-Broom Baccharis Scrub	0.93
Singlewhorl Burrobush Scrub	0.29
Spiny Rush Marsh	0.17
Tamarisk Thicket	2.39
Tecate Cypress Stand	0.67
Urban and Developed	35.08
Vegetated Rip-Rap Channel	0.25
Grand Total	**340.67**

*Acreages of individual vegetation communities are rounded to the nearest hundredth of an acre.

4.1.1 Annual Brome Grassland

Annual brome grassland (*Bromus [diandrus, hordeaceus] – Brachypodium distachyon* Semi-Natural Herbaceous Stand) is dominated by various brome grasses such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis* subsp. *rubens*), and false brome (*Brachypodium distachyon*). Emergent trees and shrubs may be present at low cover. Herbs are less than 30 inches within an intermittent to continuous herb layer. This community can be found in all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Dominant plant species observed within this community in the Survey Area included several different nonnative brome grass species, wild oat (*Avena* sp.), black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), and shortpod mustard (*Hirschfeldia incana*).

4.1.2 Arroyo Willow – Mulefat Woodland

Arroyo willow-mulefat woodland (*Salix lasiolepis-Baccharis salicifolia* Woodland Alliance) is dominated by a primary canopy of tall arroyo willow species that creates an intermittent to open canopy with a shrub layer dominated by mulefat. The vegetation community may be seasonally flooded or saturated with fresh water along flood-plains, or along low gradient depositions adjacent to river or streams. In addition to arroyo willow (*Salix lasiolepis*) and mulefat, black willow (*Salix gooddingii*) was also present periodically throughout the Survey Area along with non-native tamarisk (*Tamarix* spp.).

4.1.3 Bare Ground

Areas characterized as bare ground include areas with exposed soils, rocky substrate, access roads, and disturbed areas devoid of plant cover. Areas within the Survey Area considered bare ground are existing access roads or previously graded areas.

4.1.4 Black Willow Forest

Black willow forest (*Salix gooddingii* Forest Alliance) is composed of tall black willow and scattered western sycamore (*Platanus racemosa*) trees which form a closed canopy. This vegetation community may be seasonally flooded and/or saturated. Black willow forest is typically located in floodplains, low-gradient depositions along rivers, streams, or meadow edges. Black willow and western sycamore trees comprised the upper canopy of this community within the Survey Area while arroyo willow, mulefat, blue elderberry (*Sambucus nigra* subsp. *caerulea*) and spiny rush (*Juncus acutus*) dominated the subcanopy.

4.1.5 Bulrush Marsh

Bulrush marsh (*Scirpus* sp. Herbaceous Alliance) is dominated by one of various the bulrush species. The vegetation community may be permanently or irregularly flooded creating a creek or channel. Soil is typically peaty and supporting other marsh species. Bulrush marsh was interrupted periodically by willow species within the Survey Area.

4.1.6 California Sagebrush-California Buckwheat Scrub

California sagebrush-California buckwheat scrub (*Artemisia californica-Eriogonum fasiculatum* Shrubland Alliance) is dominated equally by California sagebrush and California buckwheat in the shrub canopy. Most shrubs are less than six feet in height. The canopy is two tiered and intermittent to continuous with some shrubs such as laurel sumac (*Malosma laurina*) and lemonade berry (*Rhus integrifolia*) can reach up to 16 feet in height. Herbaceous layer is seasonally present. This community can be found on steep slopes that are typically south-facing and soils are colluvial derived. Dominant plant species observed within the Survey Area included California sagebrush, coastal California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), CRPR 2B.2 Munz's sage (*Salvia munzii*) and CRPR 4.2 San Diego County viguiera (*Bahiopsis laciniata*). This community is found in both restored (Dennery Canyon Open Space Reserve) and naturally occurring stands within Survey Area.

4.1.7 Castor Bean Thicket

In some portions of the Survey Area, castor bean thicket (*Ricinus communis* Shrubland Alliance) was largely comprised of a monoculture of castor bean (*Ricinus communis*) with lesser amounts of other nonnative shrub species such as tree tobacco (*Nicotiana glauca*) and sweet fennel also present. Other portions of the Survey Area were dominated by castor bean with scattered native shrub species such as big saltbush (*Atriplex lentiformis*) also present. The herbaceous layer was dominated by nonnative annual grasses.

4.1.8 Disturbed California Sagebrush-California Buckwheat Scrub

Disturbed California sagebrush-California buckwheat scrub (*Artemisia californica-Eriogonum fasiculatum* Shrubland Alliance) is similar to California sagebrush-California buckwheat scrub, however, 25 percent or more of the total vegetation is comprised of nonnative annual grasses. Dominant plant species observed within the Survey Area included California sagebrush, coastal California buckwheat, toyon, laurel sumac, black sage, ripgut brome, and foxtail chess.

4.1.9 Coast Prickly Pear Scrub

Coast prickly pear scrub (*Opuntia littoralis* Shrubland Alliance) is dominated by coast prickly pear (*Opuntia littoralis*) and other cacti in an intermittent or continuous two tiered shrub canopy less than six feet in height. Emergent shrubs such as laurel sumac, lemonade berry, blue elderberry, and Peruvian peppertree (*Schinus molle*) may be present in low cover. The herbaceous layer is open to continuous and diverse. This vegetation community can be found on south-facing slopes and headlands. Soils are shallow loams and clays and often times rocky. Dominant plant species observed within the Survey Area included California sagebrush, coastal California buckwheat, coast cholla (*Cylindropuntia prolifera*), jojoba (*Simmondsia chinensis*), CRPR 2B.2 golden-spined cereus (*Bergerocactus emoryi*), CRPR 2B.1 San Diego barrel cactus (*Ferocactus viridescens)*, hairy yerba santa (*Eriodictyon trichocalyx* var. *trichocalyx*), laurel sumac, and coast prickly pear. This community is found in both restored (Dennery Canyon Open Space Reserve) and naturally occurring stands within Survey Area.

4.1.10 Disturbed Areas

Disturbed areas may be nearly devoid of vegetation because of clearing, grading, or routine mowing and tilling and are dominated by pioneering herbaceous species that readily colonize disturbed soils, such as tocalote (*Centaura melitensis*), wild oat, black mustard, prickly sow-thistle (*Sonchus asper*), and wild lettuce (*Lactuca serriola*). Areas characterized by disturbed habitat have no or negligible ecological value and, within the Survey Area, are primarily dominated by various combinations of ripgut brome, foxtail chess, Russian thistle (*Salsola australis*), slender wild oat (*Avena fatua*), tocalote, redstem filaree (*Erodium cicutarium*), lamb's quarters (*Chenopodium album*), and hairy crab grass (*Digitaria sanguinalis*). Scattered individuals or remnants of native coastal sage scrub vegetation also occurred including California buckwheat, California sagebrush, and deerweed (*Acmispon glaber*).

4.1.11 Disturbed Coast Prickly Pear Scrub

Disturbed coast prickly pear scrub (*Opuntia littoralis* Shrubland Alliance) is similar to coast prickly pear scrub; however, it is more fragmented by a nonnative annual grassland herbaceous layer which comprises 25 percent or more of the total vegetative cover. Dominant plant species observed within this vegetation community in the Survey Area included California sagebrush, coastal California buckwheat, coast cholla, jojoba, hairy yerba santa, laurel sumac, coast prickly pear, ripgut brome, soft chess, and foxtail chess.

4.1.12 Creeping Ryegrass Grassland

Creeping ryegrass grassland (*Elymus triticoides* Herbaceous Series) is dominated by creeping ryegrass (*Elymus triticoides*) with other grass species intermixed, including nonnative annual grasses. This vegetation type is typically found in areas that are permanently saturated with a shallow water table such as valley bottoms and lower portions of alluvial slopes. In addition to creeping ryegrass, other species observed within the Survey Area include ripgut brome and soft chess.

4.1.13 Fremont Cottonwood Forest

Fremont cottonwood forest (*Populus fremontii* Forest Alliance) is dominated largely by Fremont cottonwood (*Populus fremontii*) with other large riparian tree species such as western sycamore, coast live oak (*Quercus agrifolia*), and willow species (*Salix* spp.) occurring within a continuous to open canopy tree canopy less than 80 feet in height. The shrub layer is intermittent to open and the herbaceous layer is variable. This vegetation community can be found on floodplains, along low-gradient rivers, along perennial or seasonally intermittent streams, springs, in lower canyons in desert mountains, in alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year. Dominant plant species observed within the Survey Area included a closed canopy dominated by Fremont cottonwood, sandbar willow (*Salix exigua*), and arroyo willow, with a dense understory of woody and herbaceous species dominated by mulefat, mugwort, and San Diego marsh-elder (*Iva hayesiana*).

4.1.14 Giant Reed Break

Giant reed breaks (*Arundo donax* Semi-Natural Stands) are dominated by large dense continuous stands of giant reed (*Arundo donax*) less than 26 feet in height. Emergent trees may occur at low cover. This vegetation community can be found in riparian areas, along low-gradient streams, ditches, and coastal marshes. Typically, vegetation composition is a feature altered by anthropogenic effects. Within the Survey Area, this habitat is dominated by nonnative herbaceous plants, such as giant reed and tamarisk with associated facultative disturbed plants such as castor bean occurring along the fringes of the mapped community.

4.1.15 Landscape/Ornamental

This vegetation type consists of areas dominated by nonnative species planted for landscaping and that generally occur in residential neighborhoods, commercial properties or along roadsides. This habitat can be found within the Survey Area near the water park at the western end of the Proposed Project area. Landscape/ornamental associated species observed during the survey included jacaranda (*Jacaranda mimosifolia),* fountain tree (*Spathodea campanulata*), and cape honeysuckle (*Tecomaria capensis*).

4.1.16 Lemonade Berry Stand

Within the Survey Area monotypic lemonade berry occasionally occurs in sufficient densities to represent a scrub community. Shrubs can reach up to 26 feet in height. These areas are considered to form a lemonade berry stand (*Rhus integrifolia* Scrubland Stand)-type chaparral community.

4.1.17 Mulefat Thicket

Mulefat thickets (*Baccharis salicifolia* Shrubland Alliance) are dominated largely by mulefat within a continuous two tiered shrub layer between six and 16 feet in height. Riparian trees may be present at low cover and the herbaceous layer is sparse. This community can be found within canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels. Soils are mixed alluvium. Natural riparian scrub communities within the Survey Area were observed most commonly associated with drainages in the Otay River flood plain. These riparian communities were dominated by shrub species such as mulefat and interspersed broom baccharis (*Baccharis sarothroides*), or sandbar willow, and an herbaceous understory of San Diego marsh-elder, mugwort, and ragweed (*Ambrosia* sp.). Occasional willow species occur within this community infrequently, such as black willow or arroyo willow, providing limited canopy cover.

4.1.18 Disturbed Mulefat Thicket

Disturbed mulefat thicket (Disturbed Mulefat Shrubland Alliance) is similar to mulefat thicket; however, it is more fragmented by a large stand of nonnative tamarisk shrubs which compose 25 percent or more of the total vegetative cover. Dominant plant species observed within this vegetation community in the Survey Area included mulefat, tamarisk, San Diego marsh-elder, and spiny rush.

4.1.19 Pale Spike Rush Marsh

Pale spike rush marshes (*Eleocharis macrostachya* Herbaceous Alliance) are dominated in an open to continuous herbaceous layer less than three feet in height. This community can be found within lakeshores, streambeds, swales, vernal pools, pastures, ditches, and natural and artificial ponds. Soils are alluvial and often highly organic and are flooded part of the growing season with alkaline, brackish, or fresh water. Within the Survey Area, the dominant spike rush species is slender creeping spike-rush (*Eleocharis montevidensis*). This community is largely disturbed and can be further characterized by nonnative curly dock (*Rumex crispus*) and nonnative brome grasses such as ripgut brome.

4.1.20 Purple Needlegrass Grassland

Purple needlegrass grassland (*Nassella pulchra* Herbaceous Alliance) is dominated (or characteristically present) by purple needlegrass (*Stipa pulchra*) in the herbaceous layer in an open to continuous herbaceous layer less than three feet in height. Emergent shrubs such as California sagebrush, California buckwheat, and some trees may be present in low cover. This community can be found on all topographic locations. Inland soils are deep with high clay content or shallow and rocky near the coast. Within the Survey Area, nonnative grasses were interspersed between native grasses and shrubs. In addition to purple needlegrass, dominant plant species observed included sand aster (*Corethrogyne filaginifolia*), long-stemmed buckwheat (*Eriogonum elongatum* var. *elongatum*), California buckwheat, CRPR 1B.2 decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), nodding needlegrass (*Stipa cernua*), small-flowered needlegrass (*Stipa lepida*), and nonnative ripgut brome, and foxtail chess.

4.1.21 Singlewhorl Burrobush Scrub

Within the Survey Area singlewhorl burrobush scrub (*Ambrosia monogyra* Shrubland Alliance) occasionally occurs in sufficient densities with insufficient other species present to represent a multi-scrub community. These areas form a singlewhorl burrobush (*Ambrosia monogyra*) chaparral community with lesser amounts of mulefat also present.

4.1.22 Singlewhorl Burrobush – Broom Baccharis Scrub

Singlewhorl burrobush – broom baccharis scrub (*Ambrosia monogyra-Baccharis sarothroides* Shrubland Alliance) occurs occasionally in scattered locations throughout the Survey Area. Singlewhorl burrobrush and broom baccharis (*Baccharis sarothroides*) are co-dominant with lemonade berry in the Survey Area.

4.1.23 Spiny Rush Marsh

Spiny rush marsh (*Juncus acutus* Herbaceous Alliance) is dominated by spiny rush with California encelia (*Encelia californica*) dominating the upland vegetation. The vegetation community may be semi-permanently flooded, seasonally flooded, permanently saturated, seasonally saturated, or intermittently exposed. Spiny rush marsh is often found at the margins of channels, lakes, ponds, overflow areas, reservoirs, rivers, streams, depressions, seeps, or swales. Other plant species in addition to spiny rush and California encelia within this vegetation community observed within the Survey Area included San Diego marsh-elder, California adolphia, and tamarisk.

4.1.24 Tamarisk Thicket

Tamarisk thickets (*Tamarix* spp. Semi-Natural Shrubland Stands) are dominated by one of various *Tamarix* species within a continuous to open shrub canopy less than 26 feet in height. Riparian trees may be present at low cover. Herbaceous layer is sparse. This community can be found within arroyo margins, lake margins, ditches, washes, rivers, and other watercourses. Within the Survey Area this vegetation community was often found in drainages with evidence of trash and debris present and were all dominated by nonnative plants, including Mediterranean tamarisk (*Tamarix ramosissima*), castor bean, sweet fennel, and tree tobacco. Several of the tamarisk thickets showed evidence of remnant native vegetation as evidenced by sparse mulefat, lemonade berry, broom baccharis, or San Diego marsh-elder also present.

4.1.25 Tecate Cypress Stand

Tecate cypress stands (*Callitropsis forbesii* Woodland Alliance) are dominated by Tecate cypress within an open to intermittent tree canopy less than 33 feet in height. The shrub layer is intermittent to continuous and the herbaceous layer is sparse to intermittent. This vegetation community can be found on dry, exposed hillsides and ridgetops, stream banks, and arroyos. Soils are deep with shallow over alkaline clay, sandstone, granitic, mafic, and/or ultra mafic substrates. Within the Survey Area, one Tecate cypress stand was observed in a large dry wash and was characterized by a solid stand of Tecate cypress with no interspersed understory shrub species. Alluvial scrub species including black sage, hairy yerba santa, CRPR 2B.2 Munz's sage, and San Diego marsh-elder were found growing adjacent to the stand of Tecate cypress. Occurrence of this vegetation community within a dry wash is uncommon, indicating that the trees may have been planted for habitat restoration. Signage indicating habitat restoration can be found within this large dry wash.

4.1.26 Vegetated Rip-Rap Channel

The vegetated rip-rap channel is lined with large boulders with intermittent vegetation. Within the Survey Area the dominant species observed in this channel included San Diego marsh-elder, broom baccharis, and tamarisk with lesser amounts of mulefat, arroyo willow, and lemonade berry.

4.1.27 San Diego Mesa Claypan Vernal Pools

In San Diego County, vernal pools, specifically San Diego Mesa Claypan Vernal Pools are considered sensitive. Soils in this community are finer textured and grayer than the hardpan vernal pool and are typically surrounded by hummocks called mima mounds that may contain grassland habitat. San Diego Mesa claypan vernal pools are characterized by low depressions that sit above a hardpan or claypan layer and are typically flooded and saturated for several weeks to a few months in the winter and spring each year. Vernal pools can be differentiated from other seasonal wetland communities by containing at least one vernal pool indicator species (species known to only or predominantly occur within these isolated seasonal wetlands) such as woolly marbles (*Psilocarphus brevissimus* subsp. *brevissimus*) or button celery (*Eryngium aristulatum* var. *parishii*). Wetland OBL perennial species such as spike rush (*Eleocharis* sp.) frequently occur. Vernal pool plants are not persistent year round and generally are not evident during summer or fall. Vernal pools are often barren during the summer or may become invaded by upland annual species after the soils have dried out.

4.1.28 San Diego Mesa Claypan Vernal Pool Native Grassland Mix

Within the Survey Area, vernal pool OBL indicator species woolly marbles and San Diego button celery were primarily observed within a larger mima mound complex located west of Locations 96 through 82. Additional wetland associated species associated with San Diego Mesa claypan vernal pools observed within the Survey Area include adobe popcornflower (*Plagiobothrys acanthocarpus*) and toad rush (*Juncus bufonious*). However, this habitat has been invaded by upland annuals. Based on topography, this habitat type is expected to occur within many of the claypan depressions interspersed between mima mounds in this area of the Proposed Project. As would be expected during spring and summer months, this habitat was largely dominated by upland species and grasses at the time of the survey. Additional species observed within the vernal pools that lead to development of a new community (Vernal Pool Native Grassland Mix) included nonnative brome grasses, native needlegrass species, and scattered shrubs such as decumbent goldenbush.

4.1.29 San Diego Mesa Claypan Vernal Pools (Disturbed)

Vernal pools typically describe natural areas where mima mounds or other depressions collect water and support vernal pool indicator species. Previous human disturbances within the Proposed Project area include construction of roads, border patrol use, sewer and water line maintenance and access, fill, and recreation have resulted in disturbed conditions and the introduction of atypical vegetation within the vernal pools. Disturbed vernal pools are characterized by at least one vernal pool indicator species occurring within disturbed or developed areas. Within the Survey Area, disturbed vernal pool habitat occurs on previously developed and bladed dirt roads where senesced wooly marbles were prevalent in apparently claypan soils, and signs of hydrology such as soil cracks were present at the time of the survey. This habitat can be differentiated from the San Diego Mesa Claypan Vernal Pool habitat described above by the presence of areas largely devoid of upland vegetation during the summer due to regular disturbances and soil compaction.

4.1.30 Urban and Developed

Developed areas typically include paved roads, structures, and associated infrastructure areas.

4.2. TOPOGRAPHY

Topography throughout the Survey Area varies from relatively flat, developed, urban/residential areas in the west, through relatively flat river valleys, steep canyons, and flat mesa tops and grassland communities to the east and south of the Project.

4.3. SOILS

A total of 10 soil series mapped by USDA NRCS (1973) occur in the Survey Area: Diablo, Gravel Pits, Huerhuero, Linne, Olivenhain, Riverwash, Salinas, Stockpen, Terrace Escarpments, and Visalia.

Soil series were evaluated for suitability for vernal pool formation based on slope and permeability. Soils with less than 10 percent slopes and an impermeable subsurface layer (0.06 inch per hour or less permeability) are considered suitable for the formation of vernal pools (Bauder and McMillan 1998). A total of six soil series contained slopes and permeability that were considered suitable for the formation of vernal pools: Diablo, Huerhuero, Linne, Olivenhain, Salinas, and Stockpen.

- The Diablo series consists of well-drained moderately deep to deep clays derived from soft calcareous sandstone and shale. These soils are found on uplands (USDA NRCS 1973). This soil series meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This soil series is scattered throughout the Survey Area at elevations of 160 to 600 feet.

- The Huerhuero series consists of moderately well-drained loams with clay subsoil. This series developed in sandy marine sediments (USDA NRCS 1973). Huerhuero soils are considered to be the most common soil type supporting vernal pools in San Diego County at slopes of less than 10 percent (Bauder and McMillan 1998). A majority of this soil series within the Survey Area does not contain suitable slopes for vernal pools. Huerhuero soils occur at slopes of nine to 30 percent in the northeastern portion of the Survey Area, with elevations from 280 to 500 feet.

- The Linne series consists of well-drained, moderately deep lay loams derived from soft calcareous sandstone and shale. At nine to 30 percent slopes, this soil type is characterized as rolling to hilly soil on uplands (USDA NRCS 1973). This soil type meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This series occurs in the western and eastern portions the Survey Area at elevations from 160 to 590 feet.

- The Olivenhain series consists of well-drained, moderately deep to deep cobbly loams with very cobbly clay subsoil. This series developed in old gravelly and cobbly alluvium and are located on dissected marine terraces. Mima mounds associated with vernal pool complexes are known to occur in many areas where the two to nine percent slopes subcategory occurs (USDA NRCS 1973). This soil series is also known to support vernal pools in San Diego County coastal mesas and meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This series occurs throughout the Survey Area soils at elevations from 160 to 540 feet.

- The Salinas series consists of well-drained soils that formed in alluvium weathered from sandstone and shale. The soils are found on alluvial plains, fans, and terraces, and have slopes of 0 to 9 percent. They exhibit slow to medium runoff and moderately slow permeability. THe Salinas soils are found at elevations of 50 to 2,000 feet.

- The Stockpen series consists of moderately well-drained, moderately deep gravelly clay loams located on marine terraces (USDA NRCS 1973). This soil series meets the permeability criteria for vernal pools at slopes of less than 10 percent and is known to support vernal pools in Otay Mesa (Bauder and McMillan 1998). This soil type occurs in the northeastern portion of the Survey Area at elevations of 520 to 560 feet and contains the highest amount of vernal pools of any soil series within the Survey Area.

Soils with greater than 10 percent slopes and a permeable subsurface (greater than 0.06 inch per hour) were not considered suitable for the formation of vernal pools (Bauder and McMillan 1998). A total of four soil series were not considered suitable for the formation of vernal pools: Gravel Pits, Riverwash Series, Terrace Escarpments, and Visalia Series.

- Gravel Pits consist of areas that have been excavated for sand or gravel. The areas are mostly on broad outwash plains and terraces of stream valleys. The gravel pits within the Survey Area are likely associated with the gravel mining that occurs within the Otay River Valley. This series occurs at elevations of 170 to 190 feet.

- The Riverwash series occurs in intermittent stream channels and is typically sandy, gravelly, or cobbly (USDA NRCS 1973). This soil type occurs in the Otay River Valley in the central and northeastern portion of the Survey Area at elevations of 200 to 300 feet.

- The Terrace Escarpments series consists of steep to very steep escarpments and escarpment-like landscapes. This series occurs on the very steep sides of drainages and the nearly even fronts of terraces or alluvial fans between narrow floodplains and adjoining uplands. Typically, there is a layer of loamy or gravelly soil over soft marine sandstone, shale, or gravelly sediments (USDA NRCS 1973). This soil type occurs in the northeastern portion of the Survey Area at elevations of 320 to 480 feet.

- The Visalia series consists of very deep sandy loams underlain by loam and sandy loam derived from granitic alluvium. It occurs on alluvial fans and flood plains (USDA NRCS 1973). This soil type occurs in the northeastern portion of the Survey Area at elevations of 280 feet.

4.4. HYDROLOGY

The Proposed Project occurs within a dissected coastal mesa and canyon system on the southern bank of the Otay River near Otay Mesa. Topography within the Survey Area includes steep canyon slopes, ephemeral drainages, river terraces, vegetated riparian valleys, and clay coastal mesas. The Survey Area generally occurs within undeveloped open space, with the exception of minor agricultural uses within the Otay River floodplain and developed areas in the western portion of the Project. Coastal mesas within the Survey Area are either developed (residential) or contain vernal pool complexes of varying size and quality. Larger intact canyon systems within the Survey Area (e.g., Johnson Canyon, O’Neal Canyon, Dennery Canyon) generally contain riparian scrub vegetation, while smaller drainage systems in the area typically contain ephemeral drainages or vegetated swales with intermittent evidence of wetland hydrology. All drainages and wetlands in the area are within the Otay River watershed and have direct hydrologic connectivity to the Otay River. The Otay River flows into the Pacific Ocean (a TNW via San Diego Bay, 5.9 miles west of the Project site).

4.5. JURISDICTIONAL WATERS

Based on the surveys conducted by RECON in 2014, the USACE and RWQCB have jurisdiction over wetlands, non-wetland waters, and vernal pools within the Survey Area. A total of 4.45 acres of wetlands, and 1.09 acres non-wetland waters, for a total of 5.55 acres of USACE jurisdictional waters were delineated in the Survey Area.

Of the 4.45 acres of USACE wetlands observed within the Project area, 0.80 acre of vernal pool wetlands was delineated within the Survey Area. USACE indicator species for vernal pools were used to identify jurisdictional vernal pools (USACE 1997). USACE vernal pool indicator species were assumed in atypical situations where vehicular disturbance eliminated evidence of vegetation, and were assumed in pools containing suitable topography for ponding based on the following criteria: (1) proximity to observed USACE vernal pool indicator species; (2) proximity to designated critical habitat for USACE vernal pool indicator species; and/or (3) proximity to a known USACE vernal pool indicator species occurrences through the CNDDB and other sources (USFWS 2014; State of California 2014; Bennett 2013). A complete discussion of the survey methods and criteria for determinations of vernal pool areas occurring within the Project Survey Area are described in the *Jurisdictional Delineation Report for Tie-Line 649 Wood to Steel Replacement Project* (Appendix K) (2015).

Many of the vernal pools within the Survey Area contained the USACE vernal pool indicator species, woolly-marbles. In the vicinity where this species was identified, vernal pools not containing woolly-marbles were dominated by nonnative weed species or lacking vegetation due to vehicular disturbance. In an undisturbed condition, it is reasonable to assume that woolly-marbles would be present in these pools.

In addition, the vernal pools within the north-south access road adjacent to Donovan State Prison occur within documented occurrences of the federal and state endangered USACE vernal pool indicator species, Otay Mesa mint and San Diego button celery. In an undisturbed condition, these vernal pools would provide suitable habitat for these USACE vernal pool indicator species.

The CDFW has jurisdiction over streambed (bed, bank and channel) and the associated riparian/wetland vegetation. A total of 1.09 acres of streambed and 4.70 acres of riparian/wetland vegetation were identified in the Survey Area. These areas are discussed in further detail in the *Jurisdictional Delineation Report for Tie-Line 649 Otay to San Ysidro Border Wood to Steel Replacement Project* prepared by SDG&E and RECON (2014).

4.6. SPECIAL-STATUS PLANTS

The CNDDB and CNPS Electronic Inventory literature reviews resulted in a list of 53 special-status plant species with the potential to occur within the Survey Area. These plants have been categorized with a low, moderate, or high PFO within the vicinity of the Survey Area (Table 3). The PFO for each of the 53 target species surveyed was updated to include the results of the focused survey effort. The CRPR 4 species are not generally identified in the literature and database review results. However, three CRPR 4 species were observed during the focused plant surveys, and are included in Table 7 for a total of 53 species. Perennial shrub, tree, or stem succulent species that were not observed were considered absent from the Survey Area. Because 2014 was the third year of a drought, it is possible that some of the 21 herbaceous or perennial bulb species not observed during the focused survey effort may be present underground or in the seed bank, but did not germinate or flower during 2014. As a result, there is a low potential that they may be present within the Survey Area. These species are listed in Table 7 as "presumed absent." These sensitive plant species, their current status, habitat requirements, the PFO designation, and the results of the focused plant surveys for the Project are summarized in Table 7.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
San Diego thorn-mint (*Acanthomintha ilicifolia*)	FE/--/CRPR 1B.1	April-June	Annual herb. Occurs in vernal pools, clay, openings, chaparral, valley and foothill grassland, and coastal sage scrub habitats. Can be found at elevations between 33 and 3,150 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on historic records and suitable habitat on site.
Nuttall's acmispon (*Acmispon prostratus*)	--/--/CRPR 1B.1	March-July	Annual herb. Occurs in coastal scrub (sandy) and coastal dune habitats. Can be found at elevations less than 33 feet.	This species is **absent** from the Survey Area. There is no suitable habitat within the Survey Area. Historical records show this species to occur within one mile of the Survey Area. This species was not observed during the focused surveys.
California adolphia (*Adolphia californica*)	--/--/CRPR 2B.1	December-May	Perennial deciduous shrub. Occurs in clay, coastal scrub, chaparral, and valley and foothill habitats. Can be found at elevations between 148 and 2,427 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
San Diego bur sage (*Ambrosia chenopodiifolia*)	--/--/CRPR 2B.1	April-June	Perennial shrub. Occurs in coastal scrub. Can be found at elevations between 180 and 508 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Singlewhorl burrobush (*Ambrosia monogyra*)	--/--/CRPR 2B.2	August-November	Perennial shrub. Occurs in sandy, chaparral, and Sonoran desert scrub habitats. Can be found at elevations between 36 and 1,640 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
San Diego ambrosia (*Ambrosia pumila*)	FE/--/CRPR 1B.1	April-October	Perennial rhizomatous herb. Occurs in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. Can be found at elevations less than 1,360 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a high potential to occur during periods of sufficient rainfall based on historic records and suitable habitat on site.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential to Occur
Otay manzanita (*Arctostaphylos otayensis*)	--/--/CRPR 1B.2	January-April	Perennial evergreen shrub. Occurs in metavolcanic, chaparral, and cismontane woodland habitats. Otay manzanita can be found at elevations less than 1,300 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Dean's milk vetch (*Astragalus deanei*)	--/--/CRPR 1B.1	February-May	Perennial herb. Occurs in chaparral, cismontane woodland, coastal scrub, and riparian forest habitats. Can be found at elevations between 250 and 2,280 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area; however, this perennial species was not observed during focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential occur during periods of sufficient rainfall based on historic records and suitable habitat on site.
Coulter's saltbush (*Atriplex coulteri*)	--/--/CRPR 1B.2	March-October	Perennial herb. This species often grows in alkaline or clay soils, coastal dunes, coastal scrub, and coastal bluff scrub. Can be found at elevations less than 1,500 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur with the Survey Area; however this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a high potential to occur during periods of sufficient rainfall based on historic records and suitable habitat on site.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
South coast saltscale (*Atriplex pacifica*)	--/--/CRPR 1B.2	March-October	Annual herb. Occurs in coastal bluff scrub, dunes, and playa habitats. Can be found at elevations less than 460 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a high potential occur during periods of sufficient rainfall based on historic records and suitable habitat on site.
Encinitas baccharis (*Baccharis vanessae*)	FT/CE/CRPR 1B.1	August-November	Perennial deciduous shrub. Occurs in chaparral (maritime) and cismontane woodland habitats. Can be found at elevations between 200 and 2,360 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.
Golden-spined cereus (*Bergerocactus emoryi*)	--/--/CRPR 2B.2	May-July	Perennial stem succulent. Occurs in closed-cone coniferous forest, chaparral, and coastal scrub. Can be found at elevations between 10 and 1,300 feet.	This species is **present** on the Project and in immediately adjacent areas.
San Diego goldenstar (*Bloomeria clevelandii*)	--/--/CRPR 1B.1	April-May	Perennial bulbiferous herb. Occurs in chaparral, valley and foothill grassland, coastal scrub, and vernal pool habitats. Can be found at elevations between 164 and 1,525 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Orcutt's brodiaea (*Brodiaea orcuttii*)	--/--/CRPR 1B.1	May-July	Annual herb. Occurs in grassland near streams and vernal pools. Can be found at elevations between 98 and 5,560 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Round-leaved filaree (*California macrophylla*)	--/--/CRPR 1B.1	March-May	Annual herb. Occurs in cismontane woodland and valley and foothill grassland habitats. Can be found at elevations between 50 and 3,930 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Dunn's mariposa-lily (*Calochortus dunnii*)	--/SR/CRPR 1B.2	April-June	Perennial, bulbiferous herb. Occurs in gabbroic or metavolcanic soils and rocky, closed-cone, coniferous forest, chaparral, and valley and foothill grassland. Can be found at elevations between 600 and 6,000 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Lakeside ceanothus (*Ceanothus cyaneus*)	--/--/CRPR 1B.2	April-June	Evergreen shrub. Occurs in sandy or rocky openings of closed-cone coniferous forests and chaparral habitats. Lakeside ceanothus can be found at elevations between 770 and 2,550 feet.	This species is **absent** from the Survey Area. Habitat occurs on site and is within the elevation range of the species; however, this species is restricted to a small area near Lakeside in San Diego County. This species was not observed during the focused surveys and is not expected to occur within the Survey Area.
Otay Mountain ceanothus (*Ceanothus otayensis*)	--/--/CRPR 1B.2	January-April	Evergreen shrub. Occurs on rocky slopes in chaparral habitats at elevations between 394 and 3,609 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Wart-stemmed ceanothus (*Ceanothus verrucosus*)	--/--/CRPR 2B.2	January-April	Evergreen shrub. Occurs on rocky slopes in chaparral habitats at elevations below 1,148 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area; however, this perennial evergreen shrub species was not observed during the focused surveys.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum*)	FE/CE/CRPR 1B.2	May-October	Annual herb. This federally listed endangered species is associated with coastal salt marshes in elevations below 33 feet.	This species is **absent** from the Survey Area. The Survey Area is marginally within the species range and no suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area. This species was not observed during the focused surveys.
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	--/--/CRPR 1B.2	April-July	Annual herb. Occurs in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Can be found at elevations between 100 and 5,020 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Delicate clarkia (*Clarkia delicata*)	--/--/CRPR 1B.2	April-June	Annual herb. This species often grows in gabbroic soils in chaparral and cismontane woodland. Delicate clarkia can be found at elevations between 770 and 3,280 feet.	This species is **absent** from the Survey Area. The Survey Area is within the normal elevation range for the species but specific micro-habitat does not occur within the Survey Area. This species was not observed during the focused surveys that were conducted during the 2014 blooming period.
San Miguel savory (*Clinopodium chandleri*)	--/--/CRPR 1B.2	March-July	Perennial herb. This species is often found growing on rocky slopes in chaparral habitats below 3,609 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Summer holly (*Comarostaphylis diversifolia* subsp. *diversifolia*)	--/--/CRPR 1B.2	April-June	Evergreen shrub. This shrub occurs in chaparral habitats at elevations between 328 and 1,804 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this perennial evergreen shrub species was not observed during the focused surveys.
Snake cholla (*Cylindropuntia californica*)	--/--/CRPR 1B.1	April-May	Perennial stem succulent. This cactus species is almost always found on the coast in chaparral and sage scrub habitats. Snake cholla typically occurs at elevations below 820 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys.
Otay tarplant (*Deinandra conjugens*)	FT/CE/CRPR 1B.1 NCCP-covered	May-June	Annual herb. This species grows on clay soils within coastal scrub and valley and foothill grassland habitats. Found at elevations between 80 and 980 feet.	This species is **present** within the Survey Area and in immediately adjacent areas. USFWS Critical Habitat for this species occurs within the Project area.
Orcutt's bird's-beak (*Dicranostegia orcuttiana*)	--/--/CRPR 2B.1	March-September	Annual herb. This species typically occurs in coastal scrub habitats at elevations below 1,148 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Variegated dudleya (*Dudleya variegata*)	--/--/CRPR 1B.2	April-June	Perennial herb. This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential to Occur
Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)	--/--/CRPR 1B.1	July-November	Evergreen perennial shrub. This species is found in mesic soils within chaparral and coastal scrub habitats. The elevation range of this species ranges between 98 and 1,970 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.
San Diego button-celery (*Eryngium aristulatum var. parishii*)	FE/CE/CRPR 1B.1	April-June	Annual/perennial herb. This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Cliff spurge (*Euphorbia misera*)	--/--/CRPR 2B.2	December-August	Perennial shrub. This species is found on rocky slopes and coastal bluffs in coastal and desert scrub below 1,640 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
San Diego barrel cactus (*Ferocactus viridescens*)	--/--/CRPR 2B.1	May-June	Stem succulent. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley grassland habitats at elevations between 10 and 1,476 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Mexican flannelbush (*Fremontodendron mexicanum*)	FE/CR/CRPR 1B.1	March-June	Perennial shrub. This species is found growing in cismontane woodland, chaparral, and closed cone conifer forest habitats at elevations between 33 and 2,349 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.
Tecate cypress (*Hesperocyparis forbesii*)	--/--/CRPR 1B.1	N/A	Perennial, evergreen tree. This species often grows in clay, gabbroic, or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Tecate cypress can be found at elevations between 840 and 4,900 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Beach goldenaster (*Heterotheca sessiliflora* subsp. *sessiliflora*)	--/--/CRPR 1B.1	March-December	Perennial herb. This species is commonly found on beaches, dunes, and mud flats below 197 feet in elevation.	This species is **absent** from the Survey Area. The Survey Area is within the normal elevation range for the species, but specific micro-habitat does not occur within the Survey Area. Historical records show this species to occur within one mile of the Survey Area. This species was not observed during the focused surveys.
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	--/--/CRPR 1B.2	April-November	Perennial shrub. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat	This species is **present** within the Survey Area and in immediately adjacent areas.
San Diego marsh-elder (*Iva hayesiana*)	--/--/CRPR 2B.2	April-October	Perennial herb. This rhizomatous subshrub is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations from 33 to 1,640 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Coulter's goldfields (*Lasthenia glabrata* subsp. *coulteri*)	--/--/CRPR 1B.1	February-June	Annual herb. This species is almost always found in areas with seasonal water accumulation including vernal pools, marshes, and swamps below 3,281 feet in elevation.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Gander's pitcher sage (*Lepechinia ganderi*)	--/--/CRPR 1B.3	June-July	Perennial shrub. This species grows in gabbroic or metavolcanic soils in closed-cone coniferous forest and chaparral, coastal scrub, and valley and foothill grassland habitats. Can be found at elevations between 1,000 and 3,300 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/CRPR or CNPS Rank	Flowering Season	Habitat and Distribution	Potential to Occur
Jennifer's monardella (*Monardella stoneana*)	--/--/CRPR 1B.2	June-September	Perennial herb. This species grows in rocky, intermittent streambeds within closed-cone coniferous forest, chaparral coastal scrub, and riparian scrub habitats. Jennifer's monardella occurs at elevations between 30 and 2,600 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within one mile of the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Mud nama (*Nama stenocarpum*)	--/--/CRPR 2B.2	January-July	Annual/perennial herb. This species is found growing in marsh and swamp habitats (lake margins, riverbanks) at elevations between 16 and 1,640 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Spreading navarretia (*Navarretia fossalis*)	FT/--/CRPR 1B.1	April-June	Annual herb. This species is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, this species was not observed during the focused that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name *Scientific Name*	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Coast woolly-heads (*Nemacaulis denudata* var. *denudate*)	--/--/CRPR 1B.2	April-September	Annual herb. This species occurs on coastal dunes below 328 feet.	This species is **absent** from the Survey Area. The Survey Area is within the normal elevation range for the species but specific micro-habitat does not occur within the Survey Area. Historical records show this species to occur within one mile of the Survey Area. This species was not observed during the focused surveys.
California Orcutt grass (*Orcuttia californica*)	FE/CE/CRPR 1B.1	April-August	Annual herb. This species is found growing in vernal pool habitats at elevations between 49 and 2,363 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Baja California birdbush (*Ornithostaphylos oppositifolia*)	--/CE/CRPR 2B.1	January-April	Perennial evergreen shrub. This species is typically found in chaparral habitat at elevations between 328 and 2,624 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.
Otay mesa mint (*Pogogyne nudiuscula*)	FE/CE/CRPR 1B.1	May-July	Perennial herb. This species often grows in clay soils within vernal pool habitats. Otay Mesa mint can be found at elevations between 295 and 820 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a high potential to occur during periods of sufficient rainfall based on habitat and historic records.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name *Scientific Name*	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Nuttall's scrub oak (*Quercus dumosa*)	--/--/CRPR 1B.1	February-August	Perennial evergreen shrub. This species is found growing in sandy, clay loam, closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. This species was observed outside the Survey Area, but was not observed during the focused surveys within the Survey Area and is not expected to occur within the Survey Area.
Santa Catalina Island currant (*Ribes viburnifolium*)	--/--/CRPR 1B.2	February-April	Perennial evergreen shrub. This currant species can be found growing in chaparral and forest openings at elevations between 98 and 1,969 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.
Small-leaved rose (*Rosa minutifolia*)	--/CE/CRPR 1B.1	January-June	Perennial deciduous shrub. This species is found growing in chaparral and coastal scrub habitats at elevations between 492 and 525 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Munz's sage (*Salvia munzii*)	--/--/CRPR 2B.2	February-April	Perennial shrub. This sage species is typically found in coastal sage scrub and chaparral habitats below 2,625 feet.	This species is **present** within the Survey Area and in immediately adjacent areas.
Chaparral ragwort (*Senecio aphanactis*)	--/--/CRPR 2B.2	January-April	Annual herb. This species is found growing in chaparral, coastal scrub, cismontane woodland, and sometimes in alkaline habitats at elevations between 49 and 2,600 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.

Table 7: Special-Status Plant Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/CRPR or CNPS Rank**	**Flowering Season**	**Habitat and Distribution**	**Potential to Occur**
Purple stemodia (*Stemodia durantifolia*)	--/--/CRPR 2B.1	Year round	Perennial herb. This species can be found in Sonoran desert scrub, often on mesic, sandy soils at elevations between 591 and 984 feet.	This species is **presumed absent** from the Survey Area. Suitable habitat occurs within the Survey Area and historical records show this species to occur within the Survey Area; however, species was not observed during the focused surveys that were conducted during the 2014 blooming period. It should be noted that surveys were conducted during a sustained drought and this species has a moderate potential to occur during periods of sufficient rainfall based on habitat and historic records.
Parry's tetracoccus (*Tetracoccus dioicus*)	--/--/CRPR 1B.2	April-May	Perennial shrub. Found on dry, stony slopes. Habitat includes chaparral and coastal scrub at elevations between 500 feet and 3,300 feet.	This species is **absent** from the Survey Area. Suitable habitat occurs within the Survey Area. Historical records show this species to occur within the Survey Area; however, this species was not observed during the focused surveys and is not expected to occur within the Survey Area.

The focused plant survey for the Proposed Project sought to determine the presence or absence of 53 special-status plant species within the Survey Area. Special-status and sensitive plant species observed were overlaid onto aerial photographs in GIS (Appendix A). Further information detailing the specific distance from pole locations and work areas including point and polygon data can be found in tables in Appendix B. A floristic list of all species encountered within the Survey Area was compiled and is also presented in Appendix B. Photographs were taken showing a representative specimen of each special-status plant species at the time of the survey (Appendix F).

Of the 53 special-status plant species evaluated for their potential occurrence within the Survey Area, 17 species are present and 36 are absent or presumed absent from the Survey Area based on the results of the two rounds of focused surveys. The 53 species having a potential to occur within the Survey Area are described in Appendix D. The total number of special-status plants observed by species during the survey efforts is found in Table 8.

Three of the targeted species observed within the Survey Area are federally and/or state listed as threatened or endangered. Otay tarplant is federally listed as threatened and state listed as endangered. USFWS critical habitat for Otay tarplant also occurs within the Survey Area. San Diego button-celery is federally listed as endangered and state listed as endangered. Small-leaved rose is state listed as endangered. The remaining 14 targeted species observed are CRPR plants (Rank 1B or 2). CRPR 1B species are considered endangered throughout their range and CRPR 2 species are considered endangered in California but are more common elsewhere.

During the surveys, seven CRPR 4 species were also observed: San Diego County viguiera, small-flowered morning-glory, graceful tarplant, southwestern spiny rush, ashy spike-moss, San Diego sagewort, and Palmer's grappling hook. CRPR 4 species are on a watch list of species with a limited distribution.

The total number of individuals observed per taxon during the survey varied. In the targeted threatened and/or endangered species (Category 1), 82 San Diego button-celery individuals and 49 Otay tarplant individuals were observed. According to historical records, both of these species were historically widespread in large numbers along the Survey Area; however, below average rainfall and above average temperatures may have reduced the occurrences to the few observed. In the targeted non-threatened and/or non-endangered species (Category 2), perennial shrubs had greater numbers than annual species. More than 1,000 Tecate cypress and 1,700 singlewhorl burrobush individuals were mapped within the Survey Area. Much of the Survey Area was considered restored habitat from ongoing or past habitat restoration projects. The Survey Area passes through the Dennery Canyon Habitat Restoration Project, and nine targeted species were mapped within this area. Three of these species (golden-spined cereus, cliff spurge, and small-leaved rose) were found only within this area and were most likely planted as part of the restoration effort. Among the non-targeted sensitive species (Category 3), San Diego County viguiera, ashy spike moss, small-flowered morning-glory, and southwestern spiny rush were observed in large numbers throughout the Survey Area. The number of individuals and area covered was too large to accurately depict on a map. The numbers of individual sensitive plants observed and mapped by species within the Survey Area are found in Table 8. A detailed location map is provided in Appendix A.

Of the remaining 36 special-status plant species that were not observed within the Survey Area, five were considered absent because required habitats are not present within the Survey Area. The remaining 31 species were anticipated to have a low, moderate, or high potential for occurring due to appropriate habitats and historical records, but were not identified during the 2014 focused plant surveys. Eighteen of these 31 species are annual herbs, such as San Diego thorn-mint, perennial bulbs such as Dunn's mariposa-lily, or perennial herb species such as Otay mesa mint. Considering the drought conditions in 2014, it is possible that some of these species may not have germinated or flowered during 2014. As a result, these species are described as "presumed absent" to reflect the low possibility that they may occur within the Survey Area under appropriate conditions. Based on negative survey results during the 2014 focused plant surveys, the remaining 13 perennial shrubs, trees, and stem succulents are considered absent.

Table 8: Species and Total Number of Individuals Observed

Species Name[†]	Total Number of Individuals Observed
California adolphia [2]	16
San Diego bur sage [2]	173
Singlewhorl burrobush [2]	1,735
Otay manzanita [2]	1
San Diego sagewort [2]	21
Golden-spined cereus [2]	184
San Diego goldenstar [2]	33
Otay Mountain ceanothus [2]	1
Small-flowered morning-glory (*Convolvulus simulans*) [3*]	169
Otay tarplant [1]	49
Variegated dudleya [2]	302
San Diego button-celery [1]	82
Cliff spurge [2]	17
San Diego barrel cactus [2]	361
Palmer's grapplinghook [2]	221
Tecate cypress [2]	1,033
Graceful tarplant(*Holocarpha virgata* subsp. *elongata*) [3]	165
Decumbent goldenbush [2]	1,556
San Diego marsh-elder [2]	1,149
Southwestern spiny rush(*Juncus acutus* var. *sphaerocarpus*) [3]	2,500 +(Species too common to count)
Small-leaved rose [2]	20
Munz's sage [2]	2,008
Ashy spike-moss (*Selaginella cinerascens*) [3]	2,500 + (Species too common to count)
San Diego County viguiera [3]	2,500 + (Species too common to count)

[†] Category 1 corresponds to targeted threatened or endangered species; Category 2 corresponds to targeted special-status species; and Category 3 corresponds to non-targeted sensitive species. Category 3 species numbers are not exact.

* This species was not identified in the literature and database search and was observed during the focused plant surveys.

4.7. SPECIAL-STATUS WILDLIFE

The CNDDB and literature search resulted in a list of 41 special-status wildlife species that have been known to occur in the vicinity of the Survey Area. Focused surveys conducted on the Proposed Project by Chambers Group in 2014 and 2015, resulted in an additional 15 special-status wildlife species, not identified in the literature review, that were observed or were determined to have a potential to occur on the Proposed Project bringing the total number of special-status wildlife with a potential to occur to 56 (Table 9).

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/Other**	**Habitat and Distribution**	**Potential to Occur**
American badger (*Taxidea taxus*)	--/SSC/--	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats. Require sufficient food, friable soils, and open, uncultivated ground. Prey on burrowing rodents and dig burrows themselves.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 12,814 feet, of the Proposed Project.
Hoary bat (*Lasiurus cinereus*)	--/--/WBWG medium-priority species	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths and requires water.	This species has a **low** potential to occur within the Survey Area. Although CNDDB lists one record of occurrence within five miles, approximately 22,471 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.
Long-eared myotis (*Myotis evotis*)	--/--/WBWG medium priority species	Occurs primarily in coniferous forests at elevations of 7,000 to 9.600 feet. Diet consists of insects and moths.	This species has a **low** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 21,703 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species
Mexican long-tongued bat (*Choernycteris mexicana*)	--/SSC/WBWG high priority species	Occurs in a variety of habitats such as desert and montane riparian, chaparral, and woodlands. Feeds primarily on nectar, may also consume fruit juices and pollen.	This species has a **low** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 22,471 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	--/SSC/--	Occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Primarily granivorous; however, will also consume green vegetation and insects.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists two records of occurrence, one within five miles, approximately 570 feet, of the Proposed Project.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	FE/ SSC/--	Occurs in coastal sage scrub dominated by sagebrush and maritime chaparral sage scrub; requires loose sandy soils within the immediate vicinity of the Pacific Ocean. Diet ranges from seeds, forbs, and arthropods.	This species is considered **absent** from the Survey Area. According to CNDDB, this species is considered extirpated from southern San Diego.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Pallid bat (*Antrozous pallidus*)	--/ SSC/WBWG high-priority species	Inhabits low elevation (<1,830 m/6,000 feet) rocky arid deserts and canyon lands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forests. Most common in open, dry habitats with rocky areas for roosting. These roosts must protect the bats from high temperatures. Very sensitive to disturbance of roosting sites.	This species has a **low** potential to occur within the Survey Area. CNDDB lists four records of occurrences within five miles, the closest within approximately 15,880 feet, of the Proposed Project. However, the Survey Area contains low quality roosting habitat to support this species.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	--/SSC/WBWG medium priority species	Occurs in pinyon-juniper habitats and a wide variety of desert habitats, such as alkali desert scrub, desert succulent scrub, and desert washes. Forages over open water for moths, flies, lacewings, and other insects.	This species has a **low** potential to occur within the Survey Area. CNDDB lists three records of occurrences within five miles, the closest within approximately 2,801 feet of the Proposed Project. However, the Survey Area contains low quality roosting habitat to support this species.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	--/SSC/--	Found in intermediate canopy stages of shrub habitats and open shrub/ herbaceous and tree/herbaceous edges in coastal sage scrub habitats in southern California	This species is **present** within the Survey Area. CNDDB lists 11 records of occurrences within five miles, the closest within approximately 214 feet, of the Proposed Project.
San Diego desert woodrat (*Neotoma lepida intermedia*)	--/ SSC/--	Occurs in coastal scrub of southern California from San Diego county to San Luis Obispo county. Moderate to dense canopies are preferred; particularly abundant in rock outcrops and rocky cliffs and slopes.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 570 feet, of the Proposed Project. In addition, the Survey Area contains moderate quality suitable habitat to support this species.
Townsend's big-eared bat (*Corynorhinus townsendii*)	--/ SSC/WBWG high-priority species	Found in all habitats, except alpine. Elusive and rare throughout their range. Diet primarily consists of moths.	This species has a **low** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 21,703 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Western mastiff bat (*Eumops perotis*)	--/SSC/WBWG high priority species	Occurs in many open, semi-arid to arid habitats, including; conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roost in crevices in cliff faces, high buildings, trees, and tunnels.	This species has a **low** potential to occur within the Survey Area. CNDDB lists three records of occurrences within five miles, the closest within approximately 2,801 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.
Western red bat (*Lasiurus blossevillii*)	--/ SSC/WBWG high priority species	Occurs in edge areas near streams and open fields, far from human areas. Primarily insectivorous. Consumes moths, crickets, cicadas, and beetles.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 2,801 feet, of the Proposed Project. In addition, the Survey Area contains suitable roosting habitat (along the edges of streams) to support this species; however, no bat hibernacula will be permanently affected by the Proposed Project.
Western small-footed myotis(*Myotis ciliolabrum*)	--/--/WBWG medium priority species	Occurs in a wide variety of habitats such as, open grasslands, canyons, and woodlands. Moths and beetles make up most of this species' diet.	This species has a **low** potential to occur within the Survey Area. CNDDB lists two records of occurrences within five miles, the closest within approximately 2,801 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.
Yuma myotis (*Myotis yumanensis*)	--/--/WBWG low-medium priority	Found in various habitat types, though most closely associated with open woodlands near large, open water sources. Feeds over water sources for moths, caddis flies, midges, and termites.	This species has a **low** potential to occur within the Survey Area. CNDDB lists six records of occurrences within five miles, the closest within approximately 2,801 feet, of the Proposed Project. In addition, the Survey Area contains low quality roosting habitat to support this species.
Allen's Hummingbird (*Selasphorus sasin*)	BCC/--/--	Occurs in coastal chaparral, open riparian woodlands below 300m, mixed evergreen, and oak woodlands. Prefers open habitats near the coast and along the forest edge. Feeds on floral nectar and smalls insects. Will nest in trees or shrubs, placing their nests 0.5-15m off the ground.	This species is **present** within the Survey Area for foraging and has a **moderate** potential to nest on the Proposed Project. CNDDB lists no records of occurrence within five miles of the Proposed Project.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	--/SE/--	Year-round resident of coastal salt marshes of southern California. Primarily nests in pickleweed (*Salicornia virginica*) and is ecologically associated with dense patches of pickleweed. Diet consists of insects, seeds, and grasses.	This species is considered **absent** within the Survey Area. CNDDB lists three records of occurrences within five miles, the closest within approximately 20,882 feet, of the Proposed Project. However, no suitable nesting habitat occurs within or immediately adjacent to the Survey Area.
Bell's sage sparrow (*Artemisiospiza belli belli*)	BCC/WL/--	Year-round resident in chaparral dominated by chamise (*Adenostoma fasciculatum*) as well as coastal scrub dominated by sage. Predominantly insectivorous, but also consumes seeds and green foliage. Typically builds nests on the ground, beneath shrubs.	This species has a **moderate** potential to occur within the Survey Area for foraging and nesting. CNDDB lists one record of occurrence within five miles, approximately 25,102 feet, of the Proposed Project.
Burrowing owl (*Athene cunicularia*)	--/CDFW SSC/--	Occurs in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, most notable the California ground squirrel.	This species has a **high** potential to forage and nest within the Survey Area. CNDDB lists 17 records of occurrences within five miles, three occurrences within approximately 1,500 feet, of the Proposed Project. In addition, the Survey Area contains high quality habitat for BUOW. This species was not observed in the Survey Area during focused surveys conducted by Chambers Group in 2014.
California black rail (*Laterallus jamaicensis conturniculus*)	BCC/FP/--	Occurs in tidal emergent wetlands, salt marshes, freshwater marshes, and wet meadows. Diet mainly consists of small aquatic and terrestrial invertebrates.	This species is considered **absent** within the Survey Area. CNDDB lists one record of occurrence, from 1908, within five miles, approximately 25,676 feet, of the Proposed Project. This species is considered extirpated from San Diego with the last known breeding records occurring in the 1950s.
California horned lark (*Eremophila alpestris actia*)	--/WL/--	Occurs in open habitats with sparse vegetation such as, prairies, deserts, and agricultural lands. Diet consists of weed and grass seeds and the occasional invertebrate.	This species is **present** within the Survey Area for foraging and has a **high** potential to nest within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 12,959 feet, of the Proposed Project.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/Other**	**Habitat and Distribution**	**Potential to Occur**
California least tern (*Sternula antillarum browni*)	FE/SE, FP/--	Occurs in marine estuaries, bays, and near-shore marine waters. Feeds on small fish caught in estuaries and lagoons where the water is shallow. Nests are shallow depressions made on sandy or gravelly substrate.	This species has a **low** potential to occur within the Survey Area for foraging and **absent** from the Survey Area for nesting. CNDDB lists one record of occurrence within five miles, approximately 24,000 feet, of the Proposed Project. In addition, habitat conditions required for this species for nesting, are not present within the Survey Area.
Clark's marsh wren (*Cistothrous palustris clarkae*)	--/SSC/--	Occurs in emergent wetland habitat dominated by cattails, bulrushes, and sedges. Diet primarily consists of insects, spiders, and invertebrates gleaned from vegetation.	This species is considered **present** within the Survey Area for foraging purposes and has a **high** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project.
Coastal cactus wren (*Campylorhynchus brunneicapillus*)	BCC/SSC/--	Occurs in coastal sage scrub interlaced with patches of cacti. Diet is primarily insectivorous. Forages on the ground for prey items such as caterpillars, moths, and grasshoppers	This species has a **moderate** potential to occur on within the Survey Area for foraging and a **low** potential for nesting. CNDDB lists 15 records of occurrences within five miles, two within less than 1,000 feet, of the Proposed Project. This species was not observed within the Survey Area during focused surveys conducted by Chambers Group in 2014.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC/--	An OBL, permanent resident of coastal sage scrub below 2,500 feet in elevation in southern California. Found in low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	This species is **present** within the Survey Area for both foraging and nesting. CNDDB lists 31 records of occurrences for this species within five miles of the Proposed Project. USFWS species occurrence data lists 623 records of occurrences within five miles of the Proposed Project, and three of these observations were within the Survey Area. In addition, the Survey Area contains good quality suitable habitat and USFWS Critical Habitat is located within the Proposed Project area.
Cooper's hawk (*Accipiter cooperii*)	--/ WL/--	Cooper's hawk (nesting) is a California SSC and is covered under the NCCP. This species occurs as a migrant and/or resident over most of the U.S. from southern Canada to northern Mexico.	This species is **present** within the Survey Area for foraging and has a **moderate** potential to nest within Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project; however, suitable habitat is present within the Survey Area.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name ***Scientific Name***	**Status** **Federal/State/Other**	**Habitat and Distribution**	**Potential to Occur**
Double-crested cormorant (*Phalacocorax auritis*)	--/WL (nesting colony)/--	Found along the California coast, on inland lakes, in fresh, salt, and estuarine waters throughout the year. Feed primarily on fish; will rarely eat crustaceans, amphibians, or insects.	This species is **absent** within the Survey Area for nesting as it has special nesting habitat restrictions not found within the Survey Area. CNDDB lists no records of occurrence within five miles of Proposed Project.
Grasshopper sparrow (*Ammodramus savannarum perpallidus*)	--/SSC/--	Found in most coastal counties, along the western side of the Sacramento Valley, and in the western foothills of the Sierra Nevada Mountains. Prefers breeding habitat comprised of open grasslands, preferably with bunch grass (versus sod-types) as the predominant cover, although through much of California, non-native annual grasslands and agricultural fields are used in the absence of native bunch-grass ecosystems.	This species is **present** within the Survey Area for foraging purposes and has a **high** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project; however, suitable habitat is present within the Survey Area.
Lawrence's goldfinch (*Spinus lawrencei*)	BCC/--/--	Occurs in a broad range of habitats such as, open woodlands, chaparral, desert riparian, and lower montanes. Gleans vegetation and ground for seeds. Preferred seeds include; pigweed, fiddleneck, star thistle, and chamise.	This species is **present** within the Survey Area for foraging purposes and has a **moderate** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project; however, suitable habitat is present within the Survey Area.
Least Bell's vireo (*Vireo bellii pusillus*)	FE/SE/--	Occurs in early-successional habitats along rivers with low, dense vegetation. Diet consists of insects and spiders.	This species is **present** within the Survey Area for both foraging and nesting. CNDDB lists 14 records of occurrences within five miles of the Proposed Project. USFWS species occurrence data lists 331 records of occurrences within five miles of the Proposed Project, and one of these observations was within the Survey Area. In addition, the Survey Area contains high quality suitable habitat.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Light-footed clapper rail (*Rallus longirostris levipes*)	FE/SE, FP/--	Found year round in coastal wetlands and brackish areas. Gleans for crabs, mussels, clams, insects, spiders, and worms in areas with high vegetation within the marsh.	This species has a **low** potential to occur within the Survey Area for foraging and **absent** for nesting. Although CNDDB lists four records of occurrences and USFWS data lists nine records of occurrences, all over 16,000 feet from the Proposed Project. In addition, the Survey Area contains low quality habitat to support this species.
Northern harrier (*Circus cyaneus*)	--/SSC/--	Occurs in a wide variety of habitats, the most common including; wetlands, marshes, fields, and grasslands. Preys on small mammals, reptiles, amphibians and birds.	This species is **present** within the Survey Area for foraging purposes and has a **moderate** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project; however, suitable habitat is present within the Survey Area.
Nuttall's woodpecker (*Picoides nuttallii*)	BCC/--/--	Occurs in low-elevation riparian deciduous and oak woodland habitats. Pecks, drills, and gleans insects and spiders from trunks, branches, and foliage.	This species is **present** within the Survey Area for foraging purposes and has a **moderate** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project; however, suitable habitat is present within the Survey Area.
Olive-sided flycatcher (*Contopus cooperi*)	--/SSC/--	Occurs along edges and openings lining dense coniferous forests. Insectivorous, sallies flying insects from a high perch, with a mild preference for bees.	This species is **present** within the Survey Area for foraging purposes and has a **low** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project.
Osprey (*Pandion haliaetus*)	--/WL/--	Found near large bodies of waters such as rivers, lakes, and bays. Largely piscivorous. Catches fish found near the water's surface.	This species is **present** within the Survey Area for foraging purposes and has a **low** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	--/WL/--	Occurs in coastal sage scrub, chaparral, and rocky brush-laden hillsides. Diet consists primarily of small grass and forb seeds, occasionally will also consume insects.	This species is **present** within the Survey Area for foraging and has a **high** potential to nest within the Survey Area. CNDDB lists four records of occurrences within five miles, the closest within approximately 5,660 feet, of the Proposed Project. In addition, suitable habitat is present within the Survey Area.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name ***Scientific Name***	**Status** **Federal/State/Other**	**Habitat and Distribution**	**Potential to Occur**
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE/SE/--	Breeds in a variety of riparian habitats with multi-tiered canopies and surface water, and/or saturated soils along streams. Habitat types may include a variety of willow, cottonwood, coast live oak, alder, and tamarisk woodlands.	This species has a **moderate** potential to forage within the Survey Area and a **low** potential for nesting within the Survey Area. CNDDB and USFWS list no records of occurrence within five miles of the Proposed Project. In addition, breeding habitat was limited for this species within the Survey Area, due to the lack of habitat structure and occurrence of standing water.
Western snowy plover (*Charadrius alexandrines nivosis*)	FT/SSC/--	Occurs in sandy dune type habitats along coastlines. Forages for insects, amphipods, and other small invertebrates in wet and dry sandy or gravelly substrates.	This species is considered **absent** within the Survey Area for foraging and nesting. CNDDB lists one record within five miles, approximately 20,882 feet, of the Proposed Project. In addition, specific habitat conditions for foraging and nesting are not present within the Survey Area.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT/SE/--	Found in cottonwood-willow riparian habitat. Diet in California primarily consists of caterpillars, tree frogs, katydids, and grasshoppers.	This species has a **moderate** potential to occur within the Survey Area for foraging and **low** potential for nesting in the Survey Area. CNDDB lists two records of occurrences within five miles, the closest within 2,461 feet, of the Proposed Project. This species does not show any record entries within the USFWS species occurrence data. This species was not observed in the Survey Area during focused surveys conducted by Chambers Group in 2014.
White-faced ibis (*Pelgadis chihi*)	--/WL/--	Occurs mostly in freshwater marshes, but on occasion may be found in flooded meadows and saltwater marshes. Probes muddy substrate for earthworms, insects, crustaceans, amphibians, fishes, and invertebrates.	This species is **present** within the Survey Area for foraging and is considered **absent** from the Survey Area for nesting. CNDDB lists no records of occurrence within five miles of the Proposed Project. In addition, this species has special nesting habitat restrictions not found within the Survey Area.
White-tailed kite (*Elanus leucurus*)	--/FP/--	Occurs in low to moderate elevation grasslands, savannas, agricultural areas, wetlands, marshes, and riparian woodlands. Diet consists of small mammals, amphibians, lizards, and large insects.	This species is considered **present** within the Survey Area for foraging purposes and a **low** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Yellow-breasted chat (*Icteria virens*)	--/SSC/--	Occurs in dense riparian thickets. Gleans vegetation for spiders, insects, and berries.	This species is considered **present** within the Survey Area for foraging purposes and has a **moderate** potential to nest within the Survey Area. CNDDB lists three records of occurrences within five miles, the closest within approximately 237 feet, of the Proposed Project. In addition, suitable habitat is present within the Survey Area.
Yellow warbler (*Dendroica petechia*)	--/SSC/--	Found in riparian woodlands, swamp edges, and willow thickets, prefers early successional under stories with medium-high shrub and tree density.	This species is considered **present** within the Survey Area for foraging purposes and has a **moderate** potential to nest within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project.
Coast horned lizard (*Phrynosoma coronatum*)	--/SSC/--	Occurs in a variety of habitats, such as coastal sage scrub, chaparral, various woodlands, and annual grasslands. Diet consists almost exclusively of ants.	This species has a **high** potential to occur within the Survey Area. CNDDB lists six records of occurrences within five miles, the closest approximately 9,398 feet, of the Proposed Project.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	--/SSC/--	Occurs in California from the northern Carrizo Plains in San Luis Obispo County, south through the coastal zone, south and west of the deserts, and into coastal northern Baja California. This species inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains from 0 to 7,000 feet in elevation.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 13,125 feet, of the Proposed Project, In addition, the Survey Area contains moderate quality suitable habitat.
Coronado Island skink (*Plestiodon skiltonianus interparietalis*)	--/SSC/--	Occurs in early successional stages of habitats such as coastal sage scrub, chaparral, open woodland, and conifer forests. Forages through leaf litter for small invertebrates.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 22,399 feet, of the Proposed Project.
Green turtle (*Chelonia mydas*)	FT/--/--	Occurs in shallow waters within reefs, bays, and inlets. Diets only on sea grasses and algae.	This species is considered **absent** from the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 24,648 feet, of the Proposed Project; however, the green turtle is restricted to habitats that do not occur within the Survey Area.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name ***Scientific Name***	**Status Federal/State/Other**	**Habitat and Distribution**	**Potential to Occur**
Orange-throated whiptail (*Aspisdoscelis hyperythra beldingi*)	--/SSC/--	Occurs in coastal sage scrub and chaparral habitats with sandy washes, rocky outcrops, and adequate shading. Diet consists mainly of insects and spiders.	This species is considered **present** within the Survey Area. CNDDB lists nine records of occurrences within five miles, the closest within approximately 2,000 feet, of the Proposed Project.
Red diamond rattlesnake (*Crotalus ruber*)	--/SSC/--	Found in several habitat types, such as coastal sage scrub, grassland, woodland associated large rocks or boulders. Diet consists mainly of squirrels for adults and lizards for juveniles.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists one record of occurrence within five miles, approximately 6,812 feet, of the Proposed Project. In addition, good quality suitable habitat is present within the Survey Area.
Two-striped garter snake (*Thamnophis hammondii*)	--/SSC/--	Occurs in coastal California from the vicinity of Salinas to northwest Baja California. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth, from 0 to 7,000 feet in elevation.	This species has a **moderate** potential to occur within the Survey Area. CNDDB lists four records of occurrences within five miles, the closest within 7,220 feet, of the Proposed Project In addition, good quality suitable habitat is present within the Survey Area.
Western spadefoot (*Spea hammondii*)	--/SSC/--	Found in grasslands, floodplains, washes, and playas. Diet consists of invertebrates, beetles, moths, earthworms, crickets, flies, and ants.	This species is considered **present** within the Survey Area. CNDDB lists two records of occurrences within five miles, the closest within approximately 13,155 feet, of the Proposed Project.
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/--/covered under the SDG&E Low-Effect HCP for QCB	Adults found along low hilltops, rocky outcrops, and ridges.	This species has a **high** potential to occur within the Survey Area. CNDDB lists 18 records of occurrences within five miles, the closest within approximately 1,137 feet of the Proposed Project. USFWS species occurrence data lists 345 records of occurrences within five miles of the Proposed Project, with one record occurring within the Survey Area. USFWS Critical Habitat for this species occurs within the Proposed Project area. However, focused survey efforts during the 2015 adult flight season resulted in no detections within the Survey Area.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Hermes copper butterfly (*Lycaena hermes*)	FC/--/--	Hermes copper butterfly is found in mixed woodlands, chaparral, and coastal sage scrub from San Diego County to adjacent Baja California Norte, Mexico. Spiny redberry (*Rhamnus crocea*) is the host larval food plant for this species, which is common in cismontane California coastal sage scrub and chaparral vegetation communities. However, this species is limited to only a portion of the redberry range, usually along north-facing hillsides or within deeper, well-drained soils of canyon bottoms where host (spiny redberry) and nectar (California buckwheat) plants are present. In addition, mature spiny redberry plants appear to be essential to this species' survival. It may take as long as 18 years after a wildfire for this species to re-colonize an area.	This species has a low potential to occur within the Survey Area. No CNDDB records of occurrence are documented within five miles of the Proposed Project. There are approximately only 20 known populations of Hermes copper butterfly. While suitable habitat for this species is present within the Survey Area, the closest documented population occurs near the Otay Lakes Reservoir, approximately three miles from the Proposed Project.
Thorne's hairstreak (*Mitoura thornei*)	--/--/BLM Regionally sensitive species	Only found on Otay Mountain in interior cypress woodland located between 800-3,290 feet in elevation. In larval form the species is a monophageous herbivore and adults are nectivorous.	This species is considered **present** within the Survey Area. CNDDB lists six records of occurrences within five miles of the Proposed Project, one within approximately 9,726 feet.

Table 9: Sensitive Wildlife Species' Potential to Occur

Common Name *Scientific Name*	Status Federal/State/Other	Habitat and Distribution	Potential to Occur
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE/--/--	Found in deep cool vernal pools. Lives as a filter feeder, consumes algae, bacteria, and various detritus in water.	This species has a **high** potential to occur with the Survey Area. CNDDB lists 16 records of occurrences within five miles, the closest within approximately 1,359 feet, of the Proposed Project. USFWS species occurrence data lists 70 records of occurrences within five miles, the closest within 1,453 feet, of the Proposed Project. USFWS Critical Habitat for this species is located greater than 1,000 feet south of the Proposed Project. In addition, good quality suitable habitat is present within the Survey Area. Due to poor survey conditions, Chambers Group was unable to conducted focused surveys for this species in 2014.
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE/--/--	Occurs only in high-quality vernal pools. Lives as a filter feeder, consumes algae, bacteria, and various detritus in water.	This species has **high** potential to occur with the Survey Area. CNDDB lists 18 records of occurrences within five miles, the closest within approximately 1,288 feet, of the Proposed Project. USFWS data list 291 records of occurrences within five miles of the Proposed Project, with five records occurring within the Survey Area. USFWS Critical Habitat for this species is located along the eastern portion of the Proposed Project, near the Donovan State Prison. Due to poor survey conditions, Chambers Group was unable to conducted focused surveys for this species in 2014.

Based on the literature review and recent field surveys, 56 species were determined to have a potential to occur within the Survey Area. Of the 56 species, six were considered absent from the Survey Area. Pacific pocket mouse, Belding's savannah sparrow, California black rail, western snowy plover, green turtle, and double-crested cormorant are considered absent due to extirpation or absence of appropriate habitat. These species and their habitat requirements are further described in the Sensitive Wildlife Species Descriptions (Appendix E).

Twelve special-status wildlife species were determined to have a low potential to occur in the Survey Area. Hoary bat, long-eared myotis, Mexican long-tongued bat, pallid bat, pocketed free-tailed bat, Townsend's big-eared myotis, western mastiff bat, western small-footed myotis, and Yuma myotis are considered to have a low potential to occur due to low quality suitable roosting habitat within the Survey Area and lack of historic records in the proximity of the Proposed Project. While suitable habitat for Hermes copper butterfly occurs within the Survey Area, there is a low potential for this species to occur based on known distribution and lack of historic records in the Project area. The California least tern and light-footed clapper rail are considered absent from the Survey Area for nesting, due to lack of suitable nesting habitat; however, there is a low potential for this species to occur infrequently within the Survey Area, during dispersal, migration, or while foraging.

Twelve special-status wildlife species were determined to have a moderate potential to occur, including; American badger, Northwestern San Diego pocket mouse, San Diego desert woodrat, CACW, coast patch-nosed snake, Coronado Island skink, red diamond rattlesnake, and two-striped garter snake. The western red bat also has a moderate potential to occur; however, riparian and deciduous trees that may support bat hibernacula will not be directly affected by the Proposed Project. The Bell's sage sparrow was not observed during the CAGN and CACW surveys but has a moderate potential for foraging and nesting. Southwestern willow flycatcher and western yellow-billed cuckoo were not observed within the Survey Area during the riparian species focused survey effort, but are considered to have a moderate potential to occur and a low potential to nest within the Survey Area. Additional details for these species are discussed below in Section 4.7.2.

Five special-status wildlife species were determined to have a high potential to occur, including: coast horned lizard, Riverside fairy shrimp, and San Diego fairy shrimp. BUOW and QCB while not observed within the Survey Area during the focused survey efforts, are considered to have a high potential to disperse within the Survey Area in the future. Additional details for these species are discussed below in Section 4.7.3 and 4.7.4, respectively.

Twenty-one species were identified as present during the recent survey efforts. San Diego jackrabbit was observed within the Survey Area. California horned lark was observed in suitable habitat within the Survey Area and has a high potential to nest within suitable grassland habitats, disturbed areas, and appropriate sparse shrub communities. The Clark's marsh wren was observed foraging and has a high potential to nest within the Survey Area. CAGN were observed nesting and foraging generally north and west of Location 80. LBVI was observed nesting within the Survey Area, but is not expected to nest within Proposed Project impact areas. Grasshopper sparrow was observed in suitable habitat within the Survey Area and has a high potential to nest within suitable grassland habitats. The southern California rufous-crowned sparrow was observed within the Survey Area and has a high potential to nest within the Survey Area. White-faced ibis was observed foraging within the Survey Area but are not expected to nest, due to lack of suitable nesting habitat. Orange-throated whiptail was observed throughout the Survey Area. Thorne's hairstreak was observed within suitable Tecate cypress stands; however, this habitat does not occur within Proposed Project impact areas. Western spadefoot toad was observed in larval form within non-jurisdictional road ruts and vernal pools generally east of SR-125 and south along the access road near Donovan State Prison. Although the Allen's hummingbird, Cooper's hawk, Lawrence's goldfinch, northern harrier, Nuttall's woodpecker, yellow-breasted chat, and yellow warbler were observed during the surveys, these species have only a moderate potential to nest within the Survey Area. The double-crested cormorant, olive-sided flycatcher, osprey, and white-tailed kite were observed foraging but are considered to have a low or absent potential to nest within the Survey Area due to very limited or a lack of suitable nesting habitat.

Based on the habitat assessments conducted by qualified and permitted biologists, focused surveys were conducted in 2014 and 2015 for BUOW, CAWR, CAGN, LBVI, SWFL, WYBC, and QCB. Only CAGN and LBVI were observed within the Survey Area. CAWR and SWFL were observed in suitable habitat adjacent to the Survey Area, and no BUOW, WYBC, or QCB were observed inside or adjacent to the Survey Area during focused surveys. The results of these surveys are summarized below. Focused survey reports are located in: Appendix G (CAWR and CAGN); Appendix H (LBVI, SWFL, WYBC); Appendix I (BUOW); and Appendix J (QCB).

4.7.1 Coastal Cactus Wren and California Gnatcatcher

Suitable breeding habitat for CACW was extremely limited within the Survey Area. Only three patches of cacti, offering low quality nesting substrate due to their small size, were observed. CACW prefer to nest in large patches of cactus, ranging in size from 1.98 to 4.94 acres (0.8 to two hectares), typically located on south-facing slopes, at the bases of hillsides, or in dry washes. No CAWR individuals or signs of nesting were observed in the Survey Area. The nearest high quality stands of cactus, found to support at least one pair of CACW, were approximately 1,000 feet south of Location 58 on the south-facing hillside. It is not expected that breeding CACW will occur within the Proposed Project area, and no impacts to this species are anticipated. For details of the CACW survey results, see *the 2014 Tie-Line 649 Wood to Steel Pole Project, California Gnatcatcher and Coastal Cactus Wren Survey Report* (Appendix G).

The coastal sage scrub habitat within and adjacent to the Proposed Project Survey Area is well suited for CAGN. Several patches of occupied habitat occur within the Survey Area, and approximately 30 pairs of CAGN were observed. The majority of these observations were clustered on the western end of the Proposed Project-site between Locations 1 and 6 and in Otay River Valley, from Heritage Road east to Location 78, where the line shifts south and out of the Valley. Adult and juvenile CAGN from territories identified in the 2014 surveys, as well as dispersing individuals from adjacent habitat, will likely form breeding territories in future nesting seasons in similar locations along the Survey Area. Details regarding the results of the surveys are included in the*2014 Tie-Line 649 Wood to Steel Pole Project, California Gnatcatcher and Coastal Cactus Wren Survey Report* (Appendix G).

4.7.2 Riparian Bird Species

The 2014 riparian bird surveys for LBVI, SWFL, and WYBC were conducted based on the habitat suitability assessment made during the initial round of focused LBVI surveys. Subsequent surveys were conducted in all areas that contained riparian habitat suitable for nesting of the three target species.

Four LBVI territories (LBVI 2, 8, 9, and 10) were documented within the Survey Area. These territories included habitat between 0 and 300 feet from the ROW centerline. A total of 17 LBVI territories were detected during surveys, with approximately half confirmed to be occupied by paired individuals. Evidence of successful breeding was documented in at least two territories. Male LBVI and juveniles from territories identified in the 2014 surveys, as well as dispersing LBVI from adjacent habitat, will likely form breeding territories in future nesting seasons and in similar locations within the Survey Area. In addition, the structure of the riparian habitat adjacent to the Survey Area was well suited for LBVI. Details regarding the results of the surveys are included in the *2014 Tie-Line 649 Wood to Steel Project, Riparian Bird Survey Report* (Appendix H).

Breeding habitat for SWFL was limited within the Survey Area, due to the lack of habitat structure and presence of standing water. In general, potential breeding habitat for this species runs parallel and to the north of the Survey Area along the Otay River, and was primarily outside of the designated Survey Area. Six willow flycatchers (*Empidonax trallii*) were observed between May 21 and June 20 outside of the Survey Area but within suitable breeding habitat. Although these observations fell within the migratory period for this species, the birds lacked territorial behavior and were not observed on subsequent visits. These factors indicate the observations were likely the northwestern subspecies (*E. t. brewsteri*), a state listed endangered species, which does not breed locally.

In addition, one confirmed SWFL, based on call and leg bands, was observed on several occasions between June 5 and June 20. This bird appeared to be establishing a territory (SWFL 1, presented in *2014 Tie-Line 649 Wood to Steel Pole Project, Riparian Bird Survey Report*, Appendix H) but did not appear to successfully attract a mate. The bird remained until the final cusp of the migratory period (Unitt 1987) but was not detected on subsequent survey visits. The observation of SWFL in this location was unique, with the nearest summer record of SWFL being from east Otay Lake in 1975 (Unitt 1987; Unitt pers. comm. 2014). Based on the 2014 protocol SWFL surveys, it has been determined that no active breeding SWFL territories occur within or adjacent to the Survey Area; therefore, it is expected that no impacts will occur to this species as a result of Proposed Project activities. Due to the absence of previous SWFL breeding records within the Otay River Valley (Unitt 2004; P. Unitt pers. comm. 2014), it is not unusual that no breeding activity was observed during the survey period. The solitary male SWFL observation was unexpected, and the bird may return to attempt breeding in future breeding seasons; however, due to distance of this potential territory and lack of similar habitat within the Survey Area, it is not expected that a breeding pair will be negatively impacted by Proposed Project activities.

Breeding habitat for WYBC was extremely marginal within the Survey Area, and did not offer the species composition or structure preferred by WYBC. Some higher quality stands of willow-cottonwood forest located near the eastern end of the Otay River and below Otay Dam were surveyed as well; however, WYBC were not detected, and these areas are well beyond the survey buffer for the Survey Area. Based on the 2014 protocol WYBC surveys, it has been determined that breeding WYBC are not likely to occur within or adjacent to the Survey Area. Virtually no suitable breeding habitat for WYBC was documented within the Survey Area. Surveys of low-quality habitat were performed during 2014 surveys, and no WYBC were observed. It is not expected that breeding WYBC will occur in the future within the Survey Area; therefore, no impacts to this species are anticipated as a result of the Proposed Project. Details regarding the results of the surveys are located in the *2014 Tie-Line 649 Wood to Steel Pole Project, Riparian Bird Survey Report* (Appendix H).

4.7.3 Burrowing Owl

A total of five suitable habitat areas (Area 1 through Area 5) were mapped and surveyed as suitable BUOW habitat (Figure 2, Appendix I). Area 1 is located between Locations 18.4 and 24 and is 32.72 acres in size. Burrows within dirt mounds were observed along the southern and northern edges of this area, most occupied by ground squirrel. No signs of current use by BUOW were observed. Area 2 is located between Locations 47 and 49 and is 3.87 acres in size. Rodent burrows, located in a large dirt mound along the northern edge of the suitable habitat area, were observed; however, no burrowing owl sign was observed. Area 3 is located between Locations 103 and 117 and is 115 acres in size. A total of seven burrows, suitable in size for BUOW, were observed, a majority of these clustered in small dirt mounds. On April 30, 2014, during the first round of surveys, excrement (whitewash) and prey pellets were observed near a burrow adjacent to Location 8. The prey pellets consisted of mainly beetle exoskeleton, suggesting the presence of BUOW. No additional sign of use or occupancy was observed on subsequent rounds. Area 4 is located directly south of the Proposed Project access road entrance off Otay Mesa road and is 2.5 acres in size. No burrows were found inside Area 4. Area 5 is located directly east of the proposed Otay Staging Yard and is 6.4 acres in size. A total of 17 rodent burrows were observed, most occupied by ground squirrels. No active BUOW burrows were observed during the 2014 survey effort; however, ground squirrel activity and burrows support the habitat requirements for this species; therefore, there is a potential for burrowing owl to occupy the areas in the future.

The Main Street Staging Yard was incorporated into the Proposed Project after BUOW assessments and focused surveys were conducted. Suitable habitat for BUOW was identified on November 3, 2014 within the Main Street Staging Yard. Chambers Group conducted wintering BUOW surveys within the entire Proposed Project Survey Area, including the Main Street Staging Yard. No occupied wintering habitat was observed within the Survey Area. Details regarding the results of the surveys are included in the *2014 Tie-Line 649 Wood to Steel Pole Project, Burrowing Owl Survey Report* (Appendix I).

4.7.4 Quino Checkerspot Butterfly

The QCB is covered under the SDG&E Low-Effect Quino Checkerspot Butterfly HCP. The QCB HCP Mapped Areas for QCB includes a majority of the Survey Area, from Location 18 east and south to the Border Substation. The focused survey for QCB was conducted during the 2015 adult flight season within suitable habitat identified during the habitat assessment. A total of 142.2 total acres of QCB suitable habitat was determined to occur within the Survey Area; however, no QCB were observed during the focused survey effort.

Vegetation communities within Survey Area for QCB included; San Diego mesa claypan vernal pool - native grassland mix, disturbed vernal pools, meadow/seeps, California sagebrush-California buckwheat scrub, disturbed California sagebrush-California buckwheat scrub, California buckwheat scrub, coast prickly pear scrub, chamise-Munz's sage chaparral, purple needlegrass grassland, annual brome grassland, pale spike rush marshes, bare ground and disturbed areas (i.e., dirt roadways).

Within the Survey Area, dirt access roads are graded regularly and devoid of larval host plant patches, and therefore, are not suitable for QCB larval stages; however, the roads may serve in a very limited capacity as basking or resting habitat for QCB individuals that may fly in from adjacent areas.

Dominant shrub species in the Survey Area included California buckwheat, lemonade berry and California sagebrush. Sub-dominant to occasional shrub species included but were not limited to: San Diego County viguiera, laurel sumac, jojoba, Munz's sage, and white sage.

The most prevalent host plant species observed was dot-seed plantain (*Plantago erecta*), and the only other observed host plant species was purple owl's clover (*Castilleja exserta*). As such, the vast majority of the patches were exclusively of dot-seed plantain, with only a few patches intermixed with purple owl's clover. All of the host plant patches were mapped between Locations 99 and 63, with the majority of the patches in the San Diego mesa claypan vernal pool native grassland mix between Locations 99 and 82 and the coastal sage scrub-associated communities between Locations 82 and 69. The largest mapped patches were of moderate and high densities adjacent to the dirt roads between Locations 69 and 74, along the south side of the Otay River valley. A complete map of all QCB host plant patches observed is included in Figure 7 (Appendix A). Details regarding the results of the surveys are located in the *for the 2015 Tie-Line 649 Wood to Steel Pole Project, Quino Checkerspot Butterfly Survey Report* (Appendix J).

A total of 31 butterfly species were observed over the course of these surveys (included in Appendix J). The most commonly observed species included the checkered white (*Pontia protodice*), which was mostly observed during the last half of the surveys, California ringlet (*Coenonympha tullia*), observed over the first half of the surveys (particularly in Section 3 of the Survey Area), and Behr's metalmark (*Apodemia virgulti*) and painted lady (*Vanessa cardui*), mostly observed during the earlier to middle surveys. All other species were observed in smaller numbers with observations that also varied by season.

4.7.5 Riverside Fairy Shrimp and San Diego Fairy Shrimp

The Riverside fairy shrimp is a small freshwater crustacean. The Riverside fairy shrimp is found in complexes in Otay Mesa in San Diego County. It subsists as a filter feeder, consuming bacteria, algae, protozoa, and detritus. This species produces cysts that withstand extreme weather conditions and that hatch once the pool refills, depending on the temperature. The CNDDB lists 16 records of occurrences within five miles of the Survey Area, with the closest within approximately 1,359 feet from Proposed Project components. USFWS species occurrence data lists 70 records of occurrences within five miles of the Proposed Project, the closest within approximately 1,453 feet of the Proposed Project.

The San Diego fairy shrimp is a vernal pool habitat specialist found in small, shallow vernal pools, and has been recorded in degraded habitats such as ditches and road ruts. The majority of pools inhabited by San Diego fairy shrimp are located in San Diego County, including Marine Corps Base Camp Pendleton, inland to Ramona, south through Del Mar Mesa, Kearny Mesa, Proctor Valley, Otay Mesa, and into northwestern Baja California, Mexico. The cysts sink to the bottom of the pool environment, where they can withstand temperature extremes or pool drying and hatch in the future when conditions are more favorable. Cysts can stay dormant for years until conditions are right. The CNDDB lists 18 records of occurrences within five miles of the Survey Area, the closest within approximately 1,288 feet from the Proposed Project components. USFWS species occurrence data lists 291 records of occurrences within five miles of the Proposed Project, with five records occurring within the Survey Area. Several known occurrences are located within the vernal pools and road ruts within in the Survey Area, and a majority of the pools are located within close proximity (less than 0.5 mile) of known occurrences and/or designated critical habitat (USFWS 2014; State of California 2014; Bennett 2013).

Chambers Group and RECON (Wetland Delineation Report, Appendix K) identified 0.80 acres of vernal pools within the Survey Area and mapped vernal pool boundaries to assist in re-evaluating the current design of the Proposed Project for avoidance of vernal pools. An additional survey was conducted by Chambers Group and RECON on November 3, 2014 after a rain event to identify areas where seasonal ponding occurred. The boundaries of all seasonally ponded areas and areas where there was hydrologic evidence of ponding (saturated or wetted soils), were mapped for avoidance of fairy shrimp during construction (Appendix K). These areas are collectively considered suitable habitat for sensitive fairy shrimp. A majority of these areas occur within the existing utility access road, and are subject to a wide range of ambient disturbance as mentioned above. In addition, these road areas are subject to routine maintenance such a grading or installation of gravel or crushed rock to fill potholing.

SDG&E will conduct protocol-level surveys, prior to construction, to determine the presence or absence of fairy shrimp species with in suitable habitat at the following locations: Main Street staging yard, Locations 1 through 78, and Locations 96 through 117. If surveys cannot be feasibly completed prior to construction in these locations, the Proposed Project will avoid suitable habitat for fairy shrimp when soils are wet. Additional fairy shrimp habitat outside of the above listed locations, include vernal pools; however, there is no plan to survey these areas, as they are proposed for avoidance.

4.8. USFWS CRITICAL HABITAT AREAS

USFWS designates critical habitat for endangered and threatened species under the FESA (16 USC § 1533 (a)(3). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Critical habitat includes areas used for foraging, breeding, roosting, shelter, and movement or migration. The locations of USFWS critical habitat areas for listed species were evaluated using GIS relative to the Survey Area. Four USFWS-designated critical habitat areas were identified within the Proposed Project impact area for CAGN, San Diego fairy shrimp, QCB, and Otay tarplant within the Survey Area (Appendix A). The USFWS designation of critical habitat for the CAGN specifically excluded areas within functioning HCPs, such as SDG&E Subregional NCCP. The CAGN habitat on lands owned by SDG&E (and covered under the SDG&E Subregional NCCP) was determined to have greater benefits to CAGN than from other lands designated as critical habitat (USFWS 2007). Since the Proposed Project is in SDG&E ROW within SDG&E's NCCP, the Proposed Project is not located in critical habitat for CAGN. Fourteen pole locations were determined to be present within critical habitat for the San Diego fairy shrimp. These include Proposed Project Locations 83 through 86 and 88 through 97. Seventeen pole locations are determined to be present within critical habitat for the QCB. These include Proposed Project Locations 80 through 88 and 98 through 105. Sixty-seven pole locations were determined to be present within critical habitat for Otay tarplant. These include Proposed Project Locations 8 through 10, 14, 16, 17 through 26, 28 through 32, 39 through 44, and 46 through 79.

4.9. PRESERVE AREAS

The following 86 pole locations on the Project occur within designated preserve areas included in the San Diego County MSCP: Locations 1 through 10, 14, 16, 18 through 21, 39, 40 through 46, 53, 56, and 59 through 109. These areas include San Diego County Parks, Multiple Habitat Planning Areas, and the South County Sub-Regional MSCP Area. Planning areas occurring along the Proposed Project are detailed in Figure 9: Habitat Plan Areas (Appendix A).

4.10. 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 human disturbance 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 located primarily on the southern bank of the Otay River floodplain. The Otay River flows west through the Survey Area to the Pacific Ocean, where it empties into Egger Highlands at the San Diego Bay National Wildlife Refuge. The Otay River serves as a wildlife corridor for insect, amphibian, reptile, amphibian, mammal, and avian species. Riparian systems harbor a high abundance of diversity in southern California. Portions of the Otay River watershed have been ravaged by fire, overtaken with nonnative plant and wildlife species, and has diminished in wildlife corridor habitat values due to agriculture, urban development, gravel mining, and infrastructure developments. The Otay River is located north of and does not intersect with the Proposed Project.

Fairy shrimp cysts can be transferred from one pool to another in mud and attached to vehicle tires. Therefore, roads can act as a movement or dispersal corridor for fairy shrimp species. In addition to SDG&E access for this Proposed Project, the access roads are also heavily utilized and maintained by different municipalities, including County, California State Border Patrol, sewer and water line maintenance and access, and the Donovan State Prison vehicles.

No extension of this TL is proposed; therefore, the quality of the adjacent wildlife movement corridors for terrestrial species is diminished on a temporary basis only during construction. No additional impacts to wildlife corridors are anticipated.

SECTION 5.0 – IMPACT DETERMINATIONS

5.1. PROJECT SPECIFIC IMPACTS

The following discussion describes the Proposed Project's potential to impact sensitive resources during construction of the Project. SDG&E would operate in compliance with all State and federal laws, regulations, and permit conditions. This includes compliance with the CWA, Porter-Cologne Water Quality Control Act, FESA, MBTA, BGEPA, CESA, and CEQA. In addition, SDG&E would utilize the operational protocols of the *SDG&E Subregional NCCP,* which was established according to the FESA and CESA and the NCCP Act. The *SDG&E NCCP Operational Protocols* are designed to provide avoidance and minimize impacts to all sensitive resources, regardless of whether the species is an NCCP-covered species.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of sensitive vegetation communities. Temporary disturbance and/or permanent loss could occur to sensitive plant species, sensitive wildlife, and critical habitat areas. Permanent loss includes long-term impacts associated with permanent features such as new poles. Temporary disturbance includes short-term impacts during removal of existing wood poles, installation for new poles, and work at string sites, staging/laydown areas, and improvements to existing access roads.

5.1.1 Permanent Impacts

Permanent impacts include the placement of either a light-duty steel pole, heavy-duty steel pole, micropile foundation steel pole, or pier foundation steel pole. Permanent impacts as a result of the Proposed Project would also include access road modifications.

Directly Embedded Steel Poles

Permanent impacts resulting from the installation of directly embedded steel poles were calculated with an assumption that each pole location would require up to an approximately 54-inch diameter hole for the replacement pole and that each pole would measure up to approximately 30 inches at ground level, which would result in approximately 16 square feet of permanent impact per pole, including the permanent impact from the concrete annulus backfill surrounding the pole.

Micropile Foundations Steel Pole

The assumed permanent impact for micropile steel poles is based on a micropile steel cap plate with an anticipated maximum diameter of seven feet, for an approximate 39 square foot permanent impact area.

Pier Foundation Steel Poles

The anticipated permanent impacts for the installation of concrete pier foundation poles were calculated with an assumption that each concrete pier foundation would be no larger than seven feet in diameter, for a permanent impact area of approximately 39 square feet for each of the new pier foundation poles.

Access Road Modifications

SDG&E will modify the existing access roads in approximately four areas near pole Locations 34, 35, 36, and 75 to accommodate the shift of the replacement poles toward the center of the ROW, which will place the poles in the existing access road. These modifications are necessary to create a safe travel way for construction and operation and maintenance personnel and equipment. Therefore, SDG&E will expand the access road by approximately five feet for approximately 50-foot lengths at each of these pole locations. The actual distance for each access road modification will be determined at the time of construction and will be based on the new pole location as well as the condition of the road at the time of construction.

5.1.2 Temporary Impacts

Directly Embedded Steel Poles

In general, temporary impact areas were evaluated based on anticipated geometric work spaces around each proposed work location. Construction work spaces are dynamic in nature and may require minor modifications during the construction phase of the Proposed Project in order to facilitate worker safety and to avoid impacts to natural resources, including sensitive habitats. Therefore, the proposed temporary impact areas below are estimated based on the "best information available at the time of this report." To account for minor shifts in construction approaches, potential temporary impact areas were evaluated based on a 20-foot radius surrounding each directly embedded pole. Thus, the resulting evaluated total impact area will include a 1,256 square foot temporary impact area around each pole and a permanent impact area of 16 square feet, resulting in the approximate calculated 1,240 square feet of potential temporary impact area for each pole.

It is anticipated that installation of directly-embedded steel poles will occur within an approximately 10-foot work area radius around the pole within the larger 20 foot potential temporary impact area, resulting in a total impact area of 314 square feet that includes a permanent impact area of approximately 16 square feet. This results in the approximate calculated 298 square feet of temporary impacts for directly-embedded steel poles. As temporary impacts for the Proposed Project are calculated based on the total potential impact area for each pole location, 1,240 square feet of temporary impacts per directly-embedded pole have been assumed.

Micropile Foundations Steel Pole

The anticipated temporary impacts for installation of micropile foundation steel poles was calculated with an assumption that each location would require an approximately 20-foot radius around the pole for a designated temporary work area, resulting in a total impact area of 1,256 square feet, including average permanent impact area of approximately 39 square feet. This results in approximately 1,217 square feet of total temporary impacts for the new micropile foundation steel pole locations.

Pier Foundation Steel Poles

Crews will use a temporary work area of approximately 75 feet by 75 feet for a total impact area of approximately 5,625 square feet per location. A 39 square foot permanent impact area was subtracted from the 5,625 square feet of temporary work area, resulting in approximately 5,586 square feet of total temporary impacts for each new concrete pier foundation pole site. An enlarged work area is required for concrete pier foundation poles due to the wider base associated with the pole structure and associated equipment required to complete construction. However, these temporary impacts will be limited to only the space necessary to install the foundation and pole; and will generally be smaller than 75 feet by 75 feet.

Existing Access Roads

SDG&E will utilize existing access roads during construction. No new access roads are proposed for this Project. Where existing access roads are damaged, repairs may be made by blading and smoothing the access road as applicable, avoiding drainage crossings and any vernal pools located within roads. Importing and compacting more stable materials on existing facilities in unstable areas may also be required. Generally, access roads and spur roads would be smoothed level to allow construction equipment and vehicles to access each site safely. SDG&E would continue to utilize BMPs to minimize dust and erosion.

Overland Travel Routes

In addition, SDG&E may utilize overland travel routes in order to avoid and minimize impacts to sensitive environmental resources. Vegetation trimming may be required in order to reduce the fire risk; however, no grading will be required for overland travel routes. The overland travel routes are approximate locations and may be shifted based on site conditions, sensitive environmental resources, and access requirements at the time of construction. Additional overland spur travel routes to work areas may be required during construction.

Staging Yards, Turnaround Areas, Stringing Sites

The Proposed Project may require use of approximately 28 stringing sites that may temporarily impact approximately 112,260 square feet (2.58 acres) of habitat. Vehicles, equipment, and personnel will remain within the SDG&E ROW, existing paved or unpaved access roads, and previously disturbed areas to the greatest extent possible.

The size of two staging yards at the Main Street and Otay[1] sites is approximately 784,080 square feet (38.83 acres) total; however, only a portion of the Otay site area will be utilized during construction. The disturbance areas within the two proposed staging yards for the Proposed Project would include a total of approximately 522,720 square feet (10 acres).

Turnarounds would be sized according to local site conditions and as required by construction equipment and vehicles. The use of approximately 10 designated turnaround areas for large vehicles

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[1] The Otay Staging Yard is approximately 33.1 acres in size, but SDG&E proposes to only use approximately four acres within this total area.

and equipment to safely turn around for operations within access roads and work areas may result in approximately 21,046 square feet (0.48 acre) of temporary impacts.

Existing Wood Poles Removed from Service and Pole Top Work

Approximately 15 poles will be completely removed from service and not replaced. An additional one pole will be accessed for pole top work only. The temporary impact areas for the removal of the wood pole locations and pole top work is expected to be a maximum of 314 square feet per site. However, potential modifications during the construction phase of the Proposed Project may be required in order to facilitate worker safety and to avoid impacts to natural resources, including sensitive habitats. To account for minor shifts in construction approaches, temporary impact areas were evaluated based on a 20-foot radius surrounding each existing wooden pole for approximately 1,256 square feet (0.03 acre) of work area per pole.

Guard Structures

Approximately two wooden guard structures will be utilized during construction at various locations where the Proposed Project crosses public roads. The guard structures are necessary to provide for safety while conductor is pulled through the line. Two wooden poles will be erected at the junction where public roads intersect the existing Project. Approximately 72 square feet will be temporarily impacted to install each of the guard structures. Total temporary impacts as a result of the use of these temporary guard structures is approximately 144 square feet.

Underground Distribution Line

Approximately two locations will have impacts associated with the installation of existing distribution lines underground. Impacts associated with trenching and installation of distribution lines underground will result in up to 1,200 square feet (0.03 acre) of temporary impacts.

5.2. VEGETATION COMMUNITIES

5.2.1 Vegetation Impacts

Anticipated Project impacts were calculated based on vegetation mapping, site specific conditions, and proposed impact areas described above for features included in the Proposed Project design. Construction work spaces are dynamic in nature and may require minor modifications during the construction phase of the Proposed Project in order to facilitate worker safety and avoid impacts to natural resources, including sensitive habitats. Therefore, the proposed temporary impact areas discussed below are estimated and may shift or be modified within the existing Proposed Project scope of work and previously evaluated 20 foot radius potential impact area surrounding each pole.

The Proposed Project is anticipated to result in temporary impacts to the following habitat types: tamarisk thickets, purple needlegrass grassland, annual brome grassland, California sagebrush-California buckwheat scrub, bare ground, coast prickly pear scrub, disturbed areas, disturbed coast prickly pear scrub, and landscape/ornamental vegetation. The Proposed Project is also anticipated to result in permanent impacts to the following habitat types: annual brome grassland habitat, disturbed areas, California sagebrush-California buckwheat scrub habitat, and bare ground.

Anticipated permanent and temporary impacts to specific habitat communities associated with the Proposed Project were calculated using anticipated permanent and temporary impact work areas described above. These anticipated impact areas per habitat type are shown in detail in Table 10 below.

Table 10: Anticipated Impacts by Habitat Type

Type of Impact		Anticipated Area of Impact (Square Feet)
Temporary	Annual Brome Grassland	117,841
	Bare Ground	333,446
	California Sagebrush – California Buckwheat Scrub	66,493
	Coast Prickly Pear Scrub	19,032
	Disturbed Areas	275,322
	Disturbed Coast Prickly Pear Scrub	1,767
	Landscape/Ornamental	6,324
	Lemonade Berry Stand	67
	Purple Needlegrass Grassland	20,441
	Tamarisk Thickets	9,934
	Urban and Developed	58,007
	Total Anticipated Temporary Impacts	**908,629**
Permanent	Annual Brome Grassland	828
	Bare Ground	532
	California Sagebrush – California Buckwheat Scrub	565
	Coast Prickly Pear Scrub	171
	Disturbed Areas	738
	Disturbed Coast Prickly Pear Scrub	16
	Landscape/Ornamental	167
	Purple Needlegrass Grassland	193
	Urban and Developed	16
	Total Anticipated Permanent Impacts	**3,226**

The Proposed Project has been designed to avoid sensitive habitat areas wherever possible, including not placing poles in drainage areas, using existing access roads, and placing any new facilities, staging areas, or access roads outside sensitive habitats when feasible. In some locations, work areas have been modified to avoid known sensitive resources, and are therefore irregularly shaped. These modified work spaces still follow the total impact areas of 1,256 square feet per site but are expected to be less. Sensitive habitats are considered naturally occurring or restored habitats that are reasonably expected to support natural diversity and carrying capacities of sensitive species in the region. Non-sensitive habitat types include bare ground, heavily disturbed areas, developed and urban areas, and landscaping, that are not reasonably expected to contribute to the function of natural habitats and open space areas in the region to support sensitive plant and wildlife species addressed in this report. A complete summary of impacts of both sensitive and non-sensitive habitat types is provided in Table 11.

Table 11: Impacts to Sensitive and Non-Sensitive Habitats

Type of Impact		Anticipated Area of Impact (Square Feet)*
Temporary	Total Anticipated Temporary Impacts to Native Vegetation Communities (not including Disturbed, Developed, Bare Ground, and Landscape/Ornamental areas)	135,121
	Total Anticipated Temporary Impacts to Non-Sensitive Vegetation Communities (Disturbed, Developed, Bare Ground, and Landscape/Ornamental areas)	773,508
	Total Anticipated Temporary impacts	**908,629**
Permanent	Total Anticipated Permanent Impacts to Sensitive Vegetation Communities (not including Disturbed, Developed, Bare Ground, and Landscape/Ornamental communities)	1,773
	Total Anticipated Permanent Impacts to Non-Sensitive Vegetation Communities (Disturbed, Developed, Bare Ground, and Landscape/Ornamental communities)	1,453
	Total Anticipated Permanent Impacts	**3,226**

5.3. SENSITIVE PLANT SPECIES

Construction activities could potentially impact sensitive plant species. The focused plant survey for the Proposed Project sought to determine the presence or absence of 53 sensitive plant species within the Survey Area. The target list of sensitive plants included species that are federally or state listed as threatened or endangered or listed by the CNPS as a sensitive species with a limited distribution.

Permanent impacts to sensitive plant species include removal of plants during construction. Permanent impacts to sensitive plants may include population fragmentation and introduction of nonnative species that may out-compete native and/or sensitive plants. Temporary impacts may include runoff, sedimentation and erosion that could adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to favor other species (native and nonnative species) that could competitively displace the sensitive plants. Construction related dust could reduce the rates of photosynthesis and hinder growth.

5.4. NATIVE TREE TRIMMING

The majority of the Proposed Project occurs within scrub and grassland communities lacking a native tree component. As such, no major trimming or removal of native trees is anticipated as a result of the Project; however, minor trimming may be required during construction to facilitate Project completion in the event of minor Project modifications.

5.5. SENSITIVE WILDLIFE SPECIES

5.5.1 Sensitive Invertebrate Species

Construction activities could potentially impact four sensitive invertebrate species. Thorne's hairstreak was observed but is not a federal- or state-listed species. San Diego fairy shrimp, and Riverside fairy shrimp have a high potential to occur within suitable habitat within the Survey Area and are assumed present pending the results of planned surveys during the 2015 dry season and 2015/2016 wet season. Although not observed during 2015 adult flight season surveys, the QCB has the potential re-colonize the Proposed Project area under favorable conditions.

Thorne's hairstreak butterfly is monophageous to Tecate cypress in its larval stage. This species was observed to occur within Tecate cypress forest habitat occurring within the Survey Area. However, no permanent or temporary impacts to Tecate cypress forest or habitats with dominant components of Tecate cypress are anticipated as a result of the Proposed Project. As such, no direct impacts to this species are anticipated as a result of the Proposed Project. Temporary impacts to this species may occur as a result of construction related dust which could reduce the rates of photosynthesis for the host plant, Tecate cypress, or adversely affect larval feeding and growth.

Several known occurrences of San Diego and Riverside fairy shrimp are located within the Survey Area, and are located within close proximity (less than 0.5 mile) of known occurrences and/or designated critical habitat (USFWS 2014; CDFG 2014; Bennett 2013). The Proposed Project has been designed to avoid permanent impacts to sensitive fairy shrimp species. Impacts to fairy shrimp species as a result of temporary work areas such as stringing sites, turnaround areas, and equipment staging yards will be avoided. Impacts to fairy shrimp as a result of normal access road use are not anticipated with Proposed Project avoidance and minimization measures in place.

Potential habitat for fairy shrimp species occurs within vernal pools, ponded areas, and road ruts within and adjacent to Proposed Project access roads. In addition to SDG&E access for this Proposed Project, the access roads are also heavily utilized and maintained by different municipalities, including County, California State Border Patrol, sewer and water line maintenance and access, and the Donovan State Prison vehicles. Protocol level surveys for sensitive fairy shrimp species will be performed during the 2015/2016 dry and wet seasons, and areas determined to support federally listed species will be avoided when pools are wet. Temporary impacts such as disruption of foraging and/or breeding behavior from vehicle traffic are not anticipated to impact fairy shrimp species beyond existing activity levels within the Project area.

A Low-Effect HCP was created by SDG&E and USFWS, and QCB is covered under the SDG&E Low-Effect QCB Butterfly HCP. The QCB HCP mapped areas include the majority of the Proposed Project area, from Location 18 east and south to the Border Substation. The Proposed Project will result in a total of 52,533 square feet (1.21 acres) of temporary and permanent impacts to QCB suitable habitat. Focused surveys for QCB were conducted during the 2015 adult flight season and no individuals were observed; as such, suitable habitat within the HCP for QCB is considered unoccupied. Therefore, 52,533 square feet (1.2 acres) of QCB suitable habitat will be mitigated for according to ratios for suitable – unoccupied habitat per the HCP.

5.5.2 Sensitive Amphibian Species

One sensitive amphibian species, western spadefoot, was observed to occur within the Survey Area east of SR-125 and south near Donovan State Prison. This species was observed during jurisdictional delineation surveys in 2015. Through avoidance of federal listed fairy shrimp species, pole location re-design has been implemented to avoid habitat that may also host western spadefoot toad. Therefore, permanent impacts to this species are not anticipated. Because of the wide distribution of western spadefoot toad within the Survey Area, this species likely has a greater habitat range than San Diego fairy shrimp or Riverside fairy shrimp. As such, temporary impacts such as disruption of breeding behavior due to vehicle traffic and temporary work areas may occur.

5.5.3 Sensitive Reptile Species

Construction activities could potentially impact eight sensitive reptile species. One of these species, green turtle, is considered absent from the Survey Area, and no impacts to this species are expected. Orange-throated whiptail is present, and the remaining species (coast horned lizard, Coronado Island skink, coast patch-nosed snake, two-striped garter snake, and red diamond rattlesnake) have a moderate to high potential to occur. Permanent impacts to these species may include individual mortality due to Project traffic or entrapment, and loss of potential foraging and breeding habitat due to the installation of new poles. Temporary impacts such as disruption of foraging behavior due to temporary work areas for installation of new poles, staging yards and stringing sites may also occur.

5.5.4 Sensitive Avian Species and Nesting Birds

Proposed construction activities may cause both permanent and temporary impacts to foraging and/or nesting habitat for 24 sensitive avian species that have either been observed within the Survey Area or have a moderate or high PFO. Proposed Project activities that could result in the permanent or temporary impacts due to loss of nesting and foraging habitat through removal of wood poles (which support cavity nesters and raptors, depending on the design of cross-arms) and the removal of vegetation during the use of stringing sites and temporary work areas for installation of new poles. Temporary impacts to avian nesting and foraging may include a temporary increase in noise from construction equipment and vehicles. Permanent impacts to these species is expected to be limited to individual mortalities or loss of potential nests protected under the MBTA during vegetation trimming or removal of existing wooden poles, and are not anticipated with Project avoidance measures in place.

Based on the results of the focused surveys, the California sagebrush-California buckwheat scrub habitat within and adjacent to the Survey Area is well suited for CAGN. Several patches of occupied habitat occur within the Survey Area and approximately 30 pairs of CAGN were observed. The majority of these observations were clustered on the western end of the Survey Area between Locations 1 and 6 and in the Otay River Valley from Heritage Road east to Location 78, where the line shifts south and out of the Valley. This species is anticipated to nest on an annual basis within the Survey Area. Permanent impacts include the removal of nesting and foraging habitat for pole installation and road modifications. Temporary impacts to this species may also include noise and visual disturbance, and temporary loss of foraging and nesting habitat relegated in discrete locations (pole work, staging yard, and stringing site locations).

Based on the results of the focused surveys, the structure of the riparian habitat adjacent to the Survey Area was well suited for LBVI; however, this habitat occurs mostly outside the Survey Area and is therefore mostly outside the proposed work areas. Four LBVI territories (LBVI 2, 8, 9, and 10) were documented within the Survey Area. These territories included habitat up to 300 feet from the Proposed Project. A total of 17 LBVI territories were detected during surveys, with approximately half of them confirmed to be occupied by paired individuals. Evidence of successful breeding was documented in two territories. This species is anticipated to nest on an annual basis within the Survey Area. Permanent impacts include the removal of foraging habitat for pole installation and road modifications. Temporary impacts to this species may also include noise and visual disturbance, and temporary loss of foraging habitat relegated in discrete locations (pole work, staging yard, and stringing site locations). No nesting habitat is expected to be impacted as a result of the Proposed Project.

Four species were determined to have a moderate potential to forage within the Survey Area: SWFL, CACW, Bell's sage sparrow, and BUOW. Given the results of the 2014 protocol SWFL surveys, it is expected that no direct impacts will occur to this species as a result of Proposed Project activities. Due to the absence of previous SWFL breeding records within the Otay River Valley (Unitt 2004), it is not unusual that no breeding activity was observed during the survey period. The solitary male SWFL observation was unexpected, and the bird may return to attempt breeding in the future; however, due to the distance of this potential territory and lack of similar habitat within the Survey Area, it is not expected that a breeding pair will be impacted by Proposed Project activities. Temporary impacts to SWFL may include noise and visual disturbance, and temporary loss of foraging habitat relegated in discrete locations (pole work and stringing site locations).

WYBC was observed during the surveys; however, this species was not identified as nesting during the focused survey. Very limited suitable breeding habitat for WYBC was documented within the Survey Area. It is not expected that breeding WYBC will occur within the Proposed Project area, and no permanent or temporary impacts to this species are anticipated.

Very limited suitable breeding habitat for CACW was documented within the Survey Area. It is not expected that breeding CACW will occur within the Proposed Project area, and no direct impacts to this species are anticipated. The three patches of cactus that were observed within the ROW that could support CACW nest were low in quality. These stands were very small and unfavorable for nesting. Temporary impacts to this species include noise and visual disturbance, and temporary loss of foraging habitat relegated in discrete locations (pole work and stringing site locations). No nesting habit is expected to be impacted as a result of the Proposed Project.

Bell's sage sparrow nests in chaparral communities dominated by chamise (*Adenostoma fasciculatum*) or saltbush (*Atriplex* spp.) as well as coastal scrub habitat dominated by sage (*Salvia* spp.). This species has a moderate potential to nest and forage within the Survey Area; however, this species was not observed during the survey efforts. The closest recorded occurrence was documented approximately 7.75 miles from the Project. Direct impacts to nesting habitat including vegetation removal for pole installation may occur. Temporary impacts to this species may also include noise and visual disturbance, and temporary loss of foraging habitat relegated in discrete locations (pole work and stringing site locations).

Given the results of the 2014 protocol breeding season surveys and 2014/2015 winter surveys, it is assumed that BUOW did not use the Survey Area during the 2014 nesting season or winter of 2014/2015; however, BUOW has a high potential to occur within the Survey Area in future years. Several recent breeding records exist for BUOW in the Otay Mesa area in similar habitat close to Brown Field Municipal Airport (two miles west of suitable habitat within the Survey Area). The BUOW population at

Brown Field is considered one of the last large populations of BUOW in San Diego County and may support between five and 10 breeding pairs (Unitt 2004). Adult and juvenile BUOW from these territories may form breeding territories in future breeding seasons in similar locations within the Survey Area. Additional temporary impacts to this species may include noise and visual disturbance, and temporary loss of foraging habitat relegated in discrete locations (pole work, staging yard, and stringing site locations).

The olive-sided flycatcher, osprey, white-tailed kite, double-crested cormorant, and white-faced ibis were observed foraging, but are considered to have a low or no potential to nest within the Survey Area due to very limited suitable nesting habitat. The Lawrence’s goldfinch, Allen’s hummingbird, northern harrier, Cooper’s hawk, Nuttall’s woodpecker, and yellow warbler were observed during the surveys; however, these species were not identified as nesting during the focused surveys and have a moderate potential to nest within the Survey Area based on the moderate quality of suitable nesting habitat. The Clark’s marsh wren and the grasshopper sparrow were observed foraging and have a high potential to nest within the Survey Area. Permanent impacts include the removal of nesting and foraging habitat for pole installation and road modifications. Temporary impacts to these species include noise and visual disturbance, and temporary loss of foraging and nesting habitat relegated in discrete locations (pole work, staging yards, and stringing site locations).

5.5.5 Sensitive Mammal Species

Proposed construction activities may result in permanent and temporary impacts to four sensitive mammal species that have a moderate or high potential to occur within the Survey Area. Black-tailed jackrabbit was present within the Survey Area. Northwestern San Diego pocket mouse, San Diego desert woodrat, and American badger each have a moderate potential to occur within the Survey Area.

Proposed construction activities, including removing and installing power poles and clearing vegetation during creation of work areas and stringing sites, may cause both permanent and temporary impacts to sensitive mammal species. Permanent impacts from these activities may include a reduction of foraging, burrowing, and nesting (woodrat) habitat from pole installation. Temporary impacts may result from construction noise and ground vibration, as mammals may be deterred from inhabiting or foraging in areas near such activities.

Power lines and other Project-related structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife, including sensitive mammal species, by raptors. Because the Proposed Project involves the replacement of existing facilities and does not include an extension of the existing TL, the extent of predation on sensitive and common wildlife species is not anticipated to differ from existing levels.

5.6. USFWS CRITICAL HABITAT AREAS

The following 14 pole locations are located within critical habitat for the San Diego fairy shrimp: Locations 83 through 86 and 88 through 97.

The following 17 pole located are located within critical habitat for the QCB: Locations 80 through 88 and 98 through 105. Permanent impacts to QCB critical habitat as a result of the Proposed Project include approximately 327 square feet (0.01 acre) of habitat. Temporary impacts to QCB critical habitat as a result temporary work areas for pole installation, stringing sites and turnaround areas include approximately 40,763 square feet (0.94 acre).

The following 67 pole locations are located within critical habitat for Otay tarplant: Locations 8 through 10, 14, 16, 17 through 26, 28 through 32, 39 through 44, and 46 through 79. Permanent impacts to Otay tarplant critical habitat as a result of replacement pole installation and road modifications include approximately 1,383 square feet (0.03 acre) of habitat. Temporary impacts to Otay tarplant critical habitat from use of temporary work areas for pole installation, stringing sites, and turnaround areas include approximately 178,616 square feet (4.10 acres).

The following 14 pole locations are located within critical habitat for the San Diego fairy shrimp: Locations 83 through 86 and 88 through 97. Permanent impacts to San Diego fairy shrimp critical habitat as a result of replacement pole installation include less than 130 square feet (<0.01 acre) of habitat. Temporary impacts to San Diego fairy shrimp critical habitat from use of temporary work areas for pole installation include approximately 13,015 square feet (0.30 acre).

The USFWS designation of critical habitat for the coastal California gnatcatcher specifically excludes areas within functioning HCPs, including SDG&E ROW within the SDG&E Subregional NCCP. Since the Proposed Project is in SDG&E ROW within SDG&E's NCCP, the Proposed Project is not located in critical habitat for coastal California gnatcatcher.

5.7. WILDLIFE MOVEMENT CORRIDORS

It is not anticipated that the Proposed Project will appreciably impact wildlife movement corridors for amphibian, reptile, mammal, or avian species. The new pole installations will be located within an existing ROW and are generally immediately adjacent to existing poles. Several drainage features including the Otay River are adjacent to the proposed construction area that could potentially be used as a migration corridor for mammal species; therefore, the quality of the site as a wildlife movement corridor for terrestrial species is diminished on a temporary basis during construction. However, the proposed construction activities would not restrict general wildlife movement due to the temporary and intermittent locations of construction activities.

San Diego and Riverside fairy shrimp species inhabit vernal pool habitats. The cysts can be transferred from one pool to another, including by cysts trapped in mud and attached to vehicle tires. Therefore, roads can effectively act as a movement and dispersal corridor for fairy shrimp species. Construction activities will occur along existing access roads; no new access roads will be constructed. In addition to SDG&E access for this Project, the access roads are also heavily utilized and maintained by different municipalities including County, California State Border Patrol, sewer and water line companies, and the Donovan State Prison. Ponded areas that may host fairy shrimp species have been identified for avoidance and focused surveys are proposed for the 2015/2016 survey period. Based on the results of the surveys, occupied fairy shrimp habitats will be avoided during construction; therefore, proposed construction activities are not expected to impact fairy shrimp habitats.

5.8. JURISDICTIONAL WATERS

The Proposed Project has been designed to avoid impacts to aquatic resources including vernal pools. No poles will be placed within a drainage or vernal pool, and existing access roads will be used to the greatest extent possible. Staging areas, laydown areas, and guard structures have all been located outside aquatic resources.

SECTION 6.0 – CONCLUSION AND DISCUSSION

During studies conducted for the Proposed Project, a total of 53 special-status plant species and 56 special-status wildlife species were evaluated for their potential to occur within the Survey Area.

Of the 53 special-status plant species evaluated, 17 species were identified and 36 were considered absent or presumed absent from the Survey Area based on the results of the two focused plant survey efforts. Twenty-one of the species presumed absent consisted of herbaceous or perennial bulbiferous species not observed within the Survey Area despite historical records and suitable habitat occurring. Considering the drought conditions in 2014, it is possible that some of the 21 herbaceous or perennial bulb species may not have germinated or flowered during 2014. As a result, there is a low probability that these species are present within the Survey Area and would be conspicuous when conditions are more favorable or through dispersal from surrounding areas. Incorporation of project design features and avoidance measures is expected to minimize or avoid impacts to these species in the event that they occur within the Proposed Project area during construction.

Focused surveys were conducted for CAGN, CACW, SWFL, LBVI, WYBC, QCB, and BUOW. Of the 56 special-status wildlife species evaluated, 22 special-status species were identified during the survey efforts. Only two federally and state listed species, CAGN and LBVI, were observed inside the Survey Area. Of the remaining 34 wildlife species, six species are considered absent from the Survey Area; 12 special-status species were determined to have a low potential to occur; 12 special-status species were determined to have a moderate potential to occur; and four sensitive species were determined to have a high potential to occur.

Focused surveys for QCB were conducted during the 2015 adult flight season and no individuals were observed within the Survey Area. The survey effort concluded that impacts to QCB suitable habitat within the HCP for QCB are to be mitigated for as unoccupied. Therefore, 52,533 square feet (1.2 acres) of QCB suitable habitat will be mitigated for through credit drawdown from the SDG&E Low Effect HCP for QCB Mitigation Bank at a 1:1 ratio for suitable – unoccupied habitat.

The Proposed Project has been designed to avoid aquatic resources. Direct and indirect impacts to jurisdictional features are not expected to occur during construction of the Proposed Project. The study concluded that impacts to wildlife corridors are not anticipated as a result of the Proposed Project.

Construction of the Proposed Project would result in temporary disturbance and/or permanent loss of vegetation communities and habitats supporting sensitive plants and wildlife. For construction of the Proposed Project, SDG&E will consult with the USFWS and the CDFW for compliance with the FESA and CESA. SDG&E will also implement Project Design Features and Ordinary Construction/Operating Restrictions during construction, which include specific Operational Protocols and Vernal Pool Protocols identified in SDG&E's NCCP. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

Although the *SDG&E Subregional NCCP* will not be utilized to permit the Proposed Project, the Proposed Project will avoid and minimize impacts to biological resources through implementation of the guidelines included in the *SDG&E Subregional NCCP*. The *SDG&E Subregional NCCP* establishes a mechanism for addressing biological resource impacts incidental to the development, maintenance, and repair of SDG&E facilities within the *SDG&E Subregional NCCP* coverage area. SDG&E does not propose mitigation, compensation, and enhancement obligations contained in the Agreement.

The Proposed Project has been designed to avoid sensitive habitat areas that may support special-status species and sensitive biological resources when possible, including not placing poles in drainage areas, using existing access roads to the greatest extent possible, and placing staging areas, laydown areas, and guard structures outside habitats when feasible. Where avoidance of sensitive habitat areas supporting special-status species is not possible, or where sensitive habitat areas exist adjacent to Proposed Project work areas, SDG&E would implement all applicable *SDG&E NCCP Operational Protocols* and NCCP guidelines to minimize Project impacts.

6.1. SDG&E OPERATIONAL PROTOCOLS

SDG&E has a long history of implementing the *SDG&E Subregional NCCP* and related operational protocols for projects such as the Proposed Project. The *SDG&E NCCP Operational Protocols* represent an environmentally sensitive approach to traditional utility construction, maintenance, and repair activities, recognizing that slight adjustments in construction techniques can yield major benefits for the environment. The appropriate *SDG&E NCCP Operational Protocols* for each individual project are incorporated into the Proposed Project design and would be determined and documented by the Environmental Surveyor. In the context of a wood to steel replacement project, the Environmental Surveyor is the lead natural resources representative from SDG&E in conjunction with the lead biological resources monitor from the biological consulting firm contracted for the job.

Biological monitors will be present during construction to assure implementation of the avoidance and minimization measures. If the previously delineated work area(s) must be expanded or modified during construction, the monitors will survey the additional impact area(s) to determine if any sensitive resources will be impacted by the proposed activities, to identify avoidance and minimization measures, and to document any additional impacts. Applicable Operational Protocols have been incorporated into the Proposed Project design and are proposed for implementation during construction in order to minimize and avoid impacts to sensitive biological resources. SDG&E will implement NCCP Operational Protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 44, 54, 55, 57, 64, 66, and 69.

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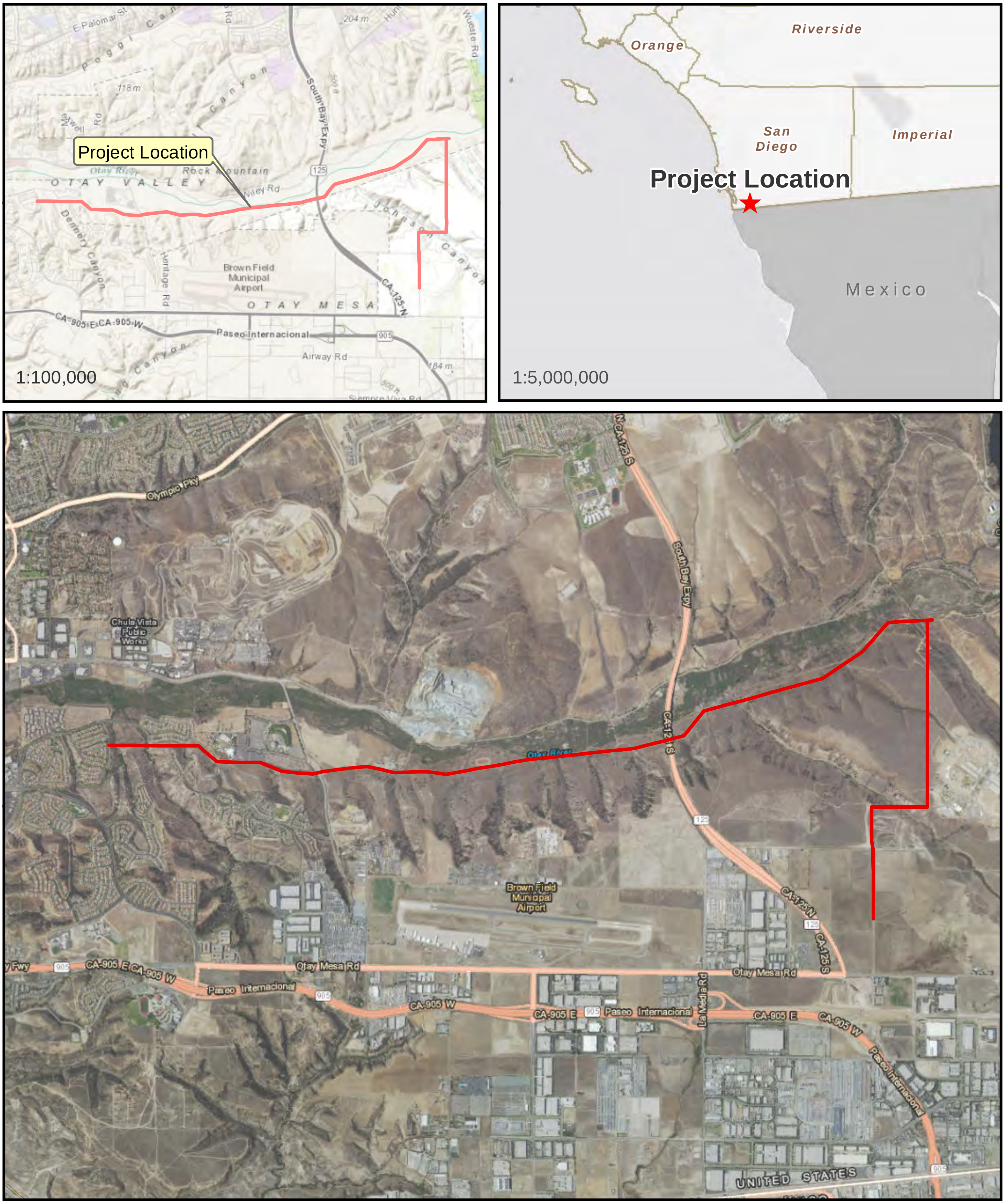
APPENDIX A – FIGURES



Legend

Transmission Centerline

Figure 1

TL-649 Wood-to-Steel Project
Biological Technical Report
Project Location and Vicinity Map

Name: 20775 BTR Fig 1 Location and Vicinity.Mxd
Print Date: 7/30/2015, Author: msimmons

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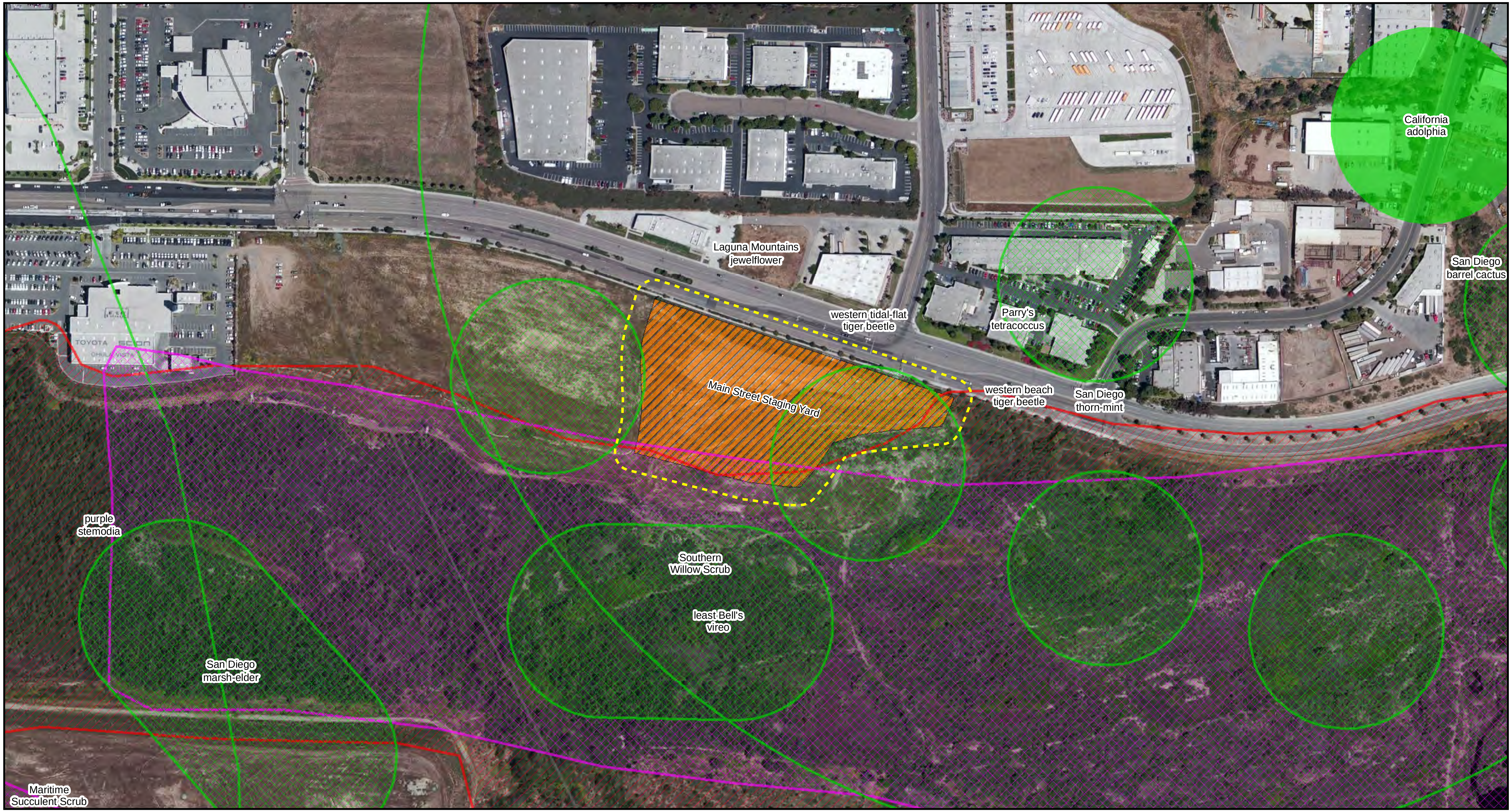

Legend

▭ Survey Corridor

Work Area Type Proposed

▨ Staging Yard

CNDDB Documented Occurrence

🟩 Plant (80m)

▨ Plant (specific)

▭ Plant (circular)

▨ Animal (non-specific)

▨ Terrestrial Comm. (specific)

▭ Multiple (circular)

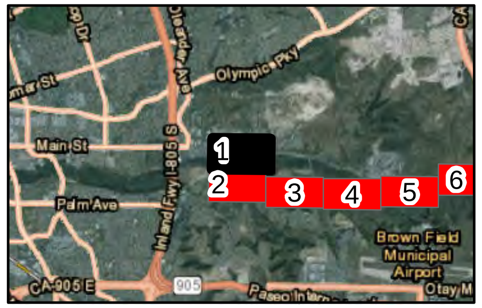

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 1 of 14

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons

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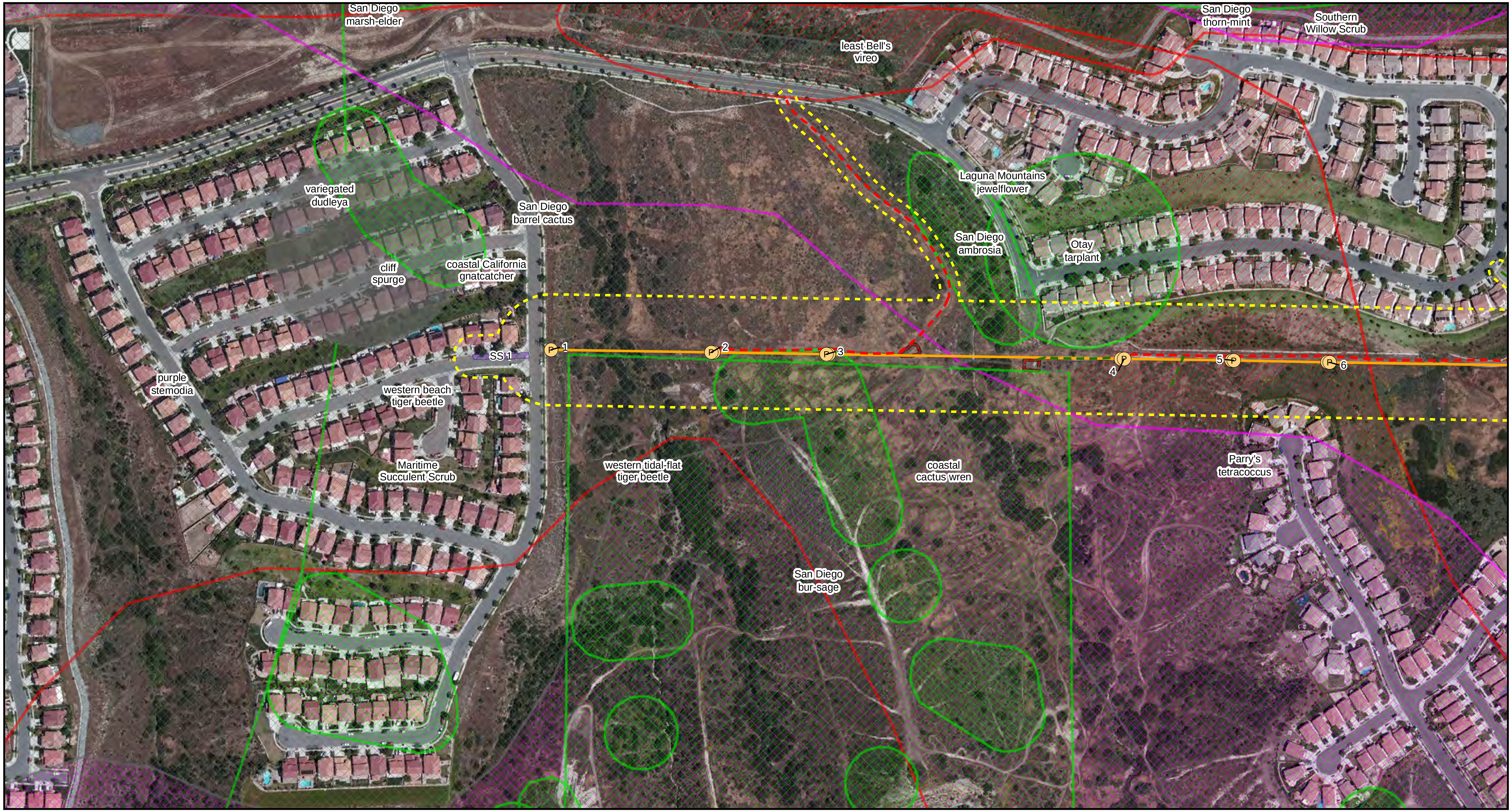


Legend

▬ Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type Proposed

▨ String Site
▭ Turnaround Area

CNDDB Documented Occurrence

▨ Plant (specific)
▨ Plant (non-specific)
▭ Plant (circular)
▨ Animal (non-specific)
▨ Terrestrial Comm. (specific)
■ Multiple (80m)
▨ Multiple (specific)
▭ Multiple (circular)

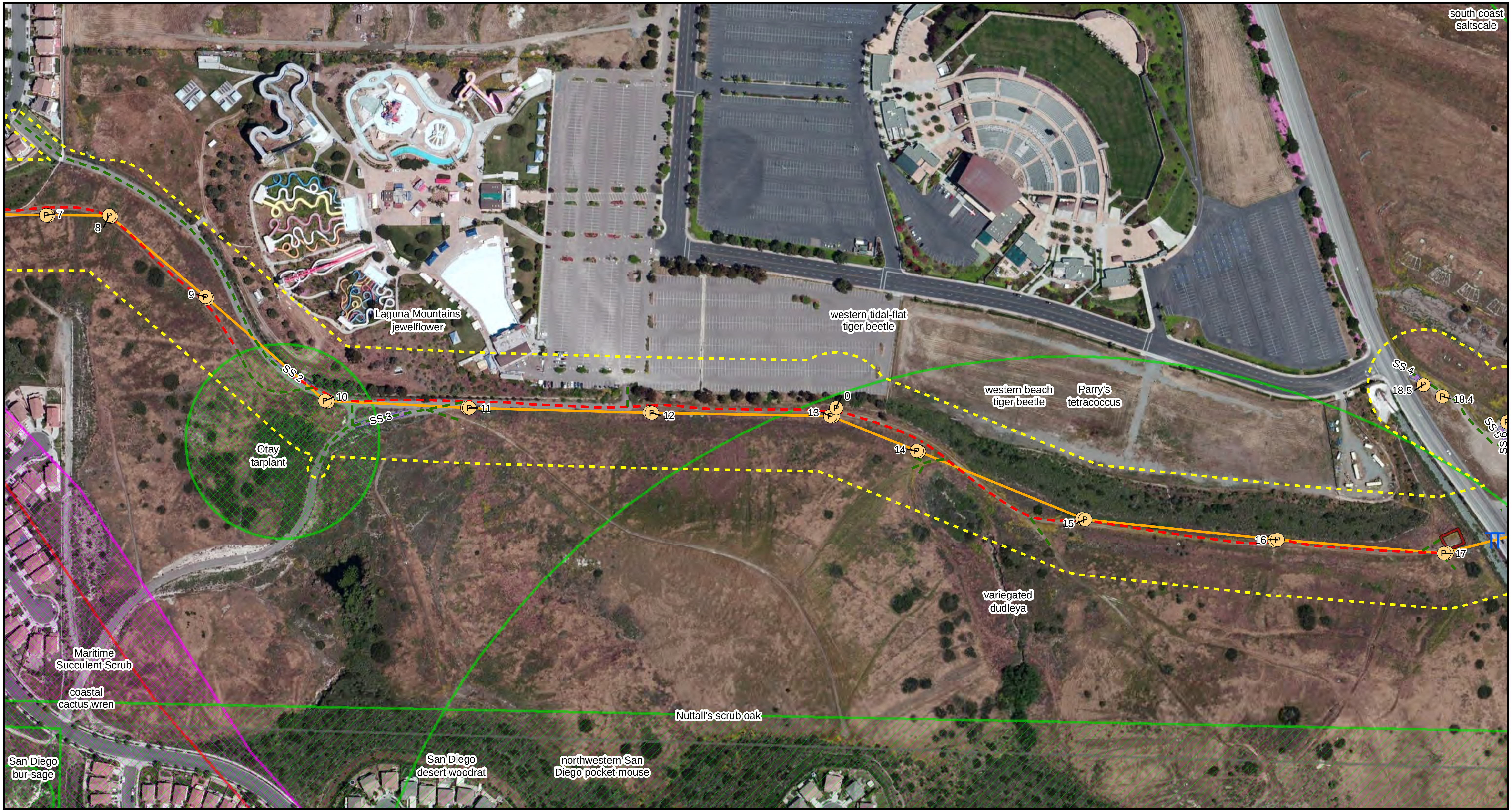
N

0 125 250 500
Feet

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole
- Π Guard Structure

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▨ String Site
- ☐ Turnaround Area

CNDDB Documented Occurrence

- ▨ Plant (specific)
- ▨ Plant (non-specific)
- ☐ Plant (circular)
- ▨ Animal (non-specific)
- ▨ Terrestrial Comm. (specific)
- ▨ Multiple (non-specific)
- ☐ Multiple (circular)

N

0 125 250 500

Feet

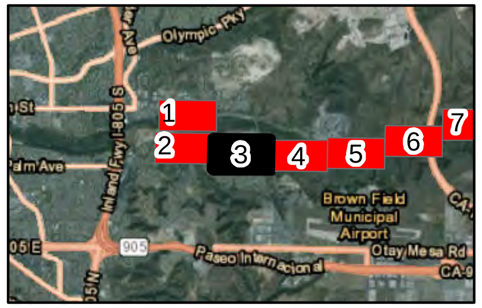


Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

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Print Date: 6/30/2015, Author: msimmons

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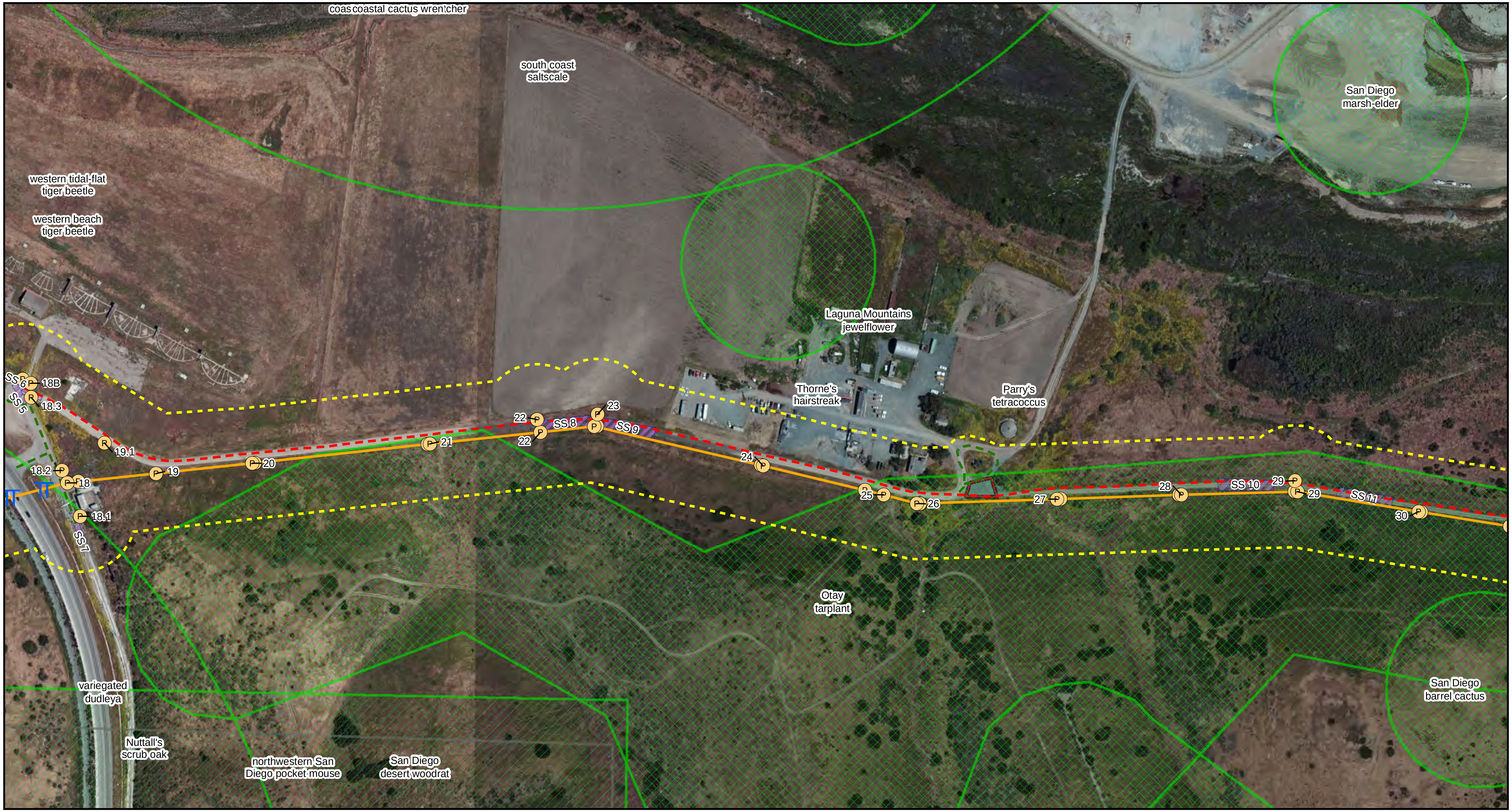

Legend

— Transmission Centerline
▭ Survey Corridor
● Project Pole
╥ Guard Structure

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type Proposed

▨ String Site
▭ Turnaround Area

CNDDB Documented Occurrence

▨ Plant (specific)
▨ Plant (non-specific)
▭ Plant (circular)
▨ Multiple (non-specific)
▭ Multiple (circular)

N

0 125 250 500

Feet

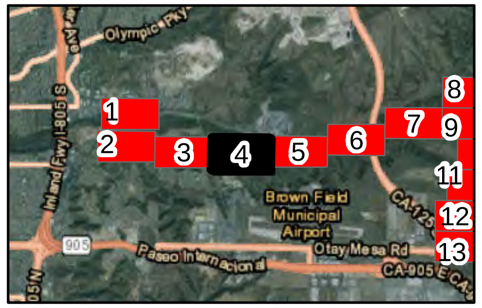

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 4 of 14

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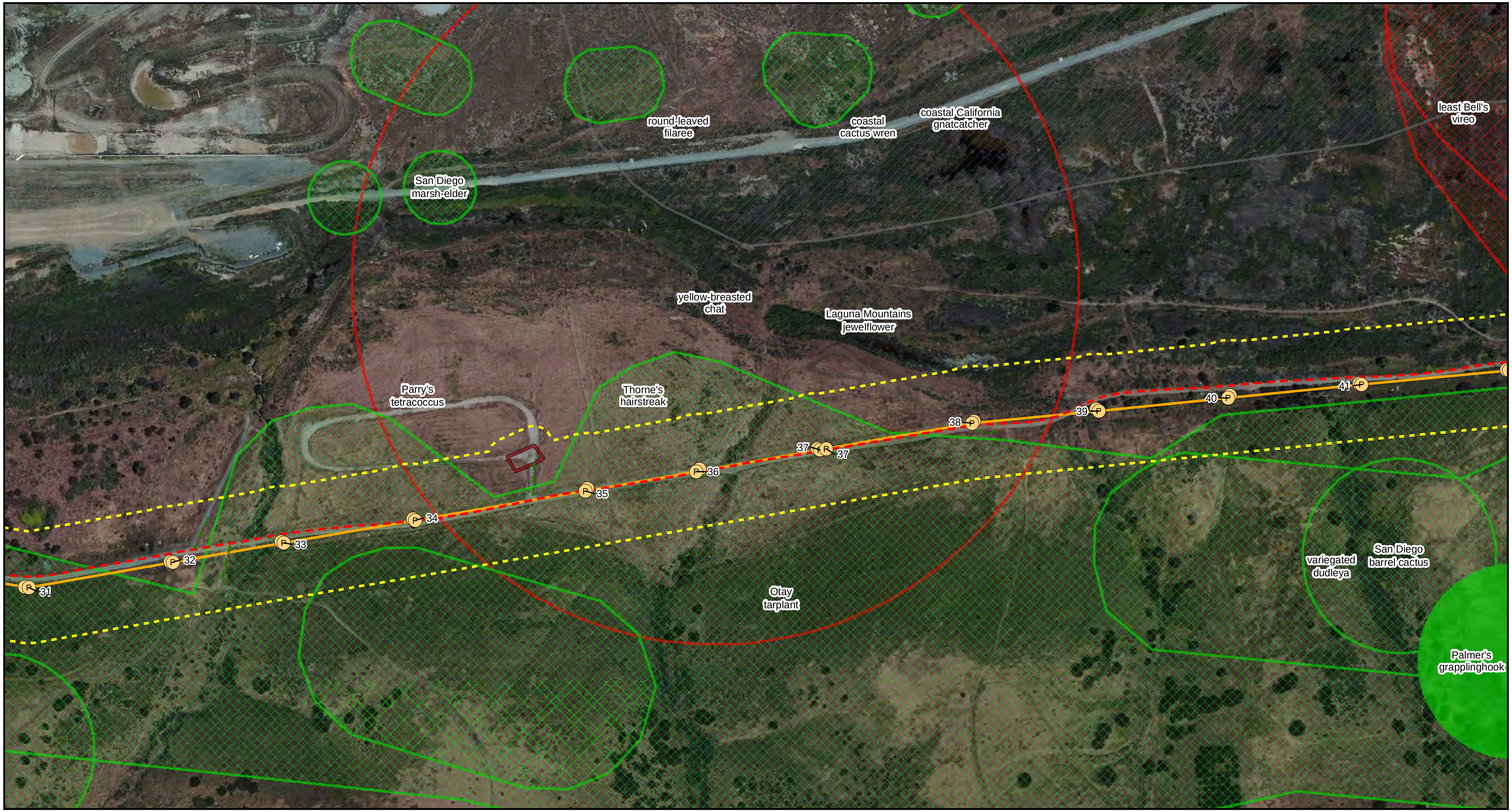

Legend

Transmission Centerline

Survey Corridor

Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road

Access Road

Work Area Type Proposed

Turnaround Area

CNDDB Documented Occurrence

🟩 Plant (80m)

▨ Plant (specific)

▨ Animal (specific)

☐ Animal (circular)

▨ Multiple (non-specific)

☐ Multiple (circular)

N

0 125 250 500

Feet

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons

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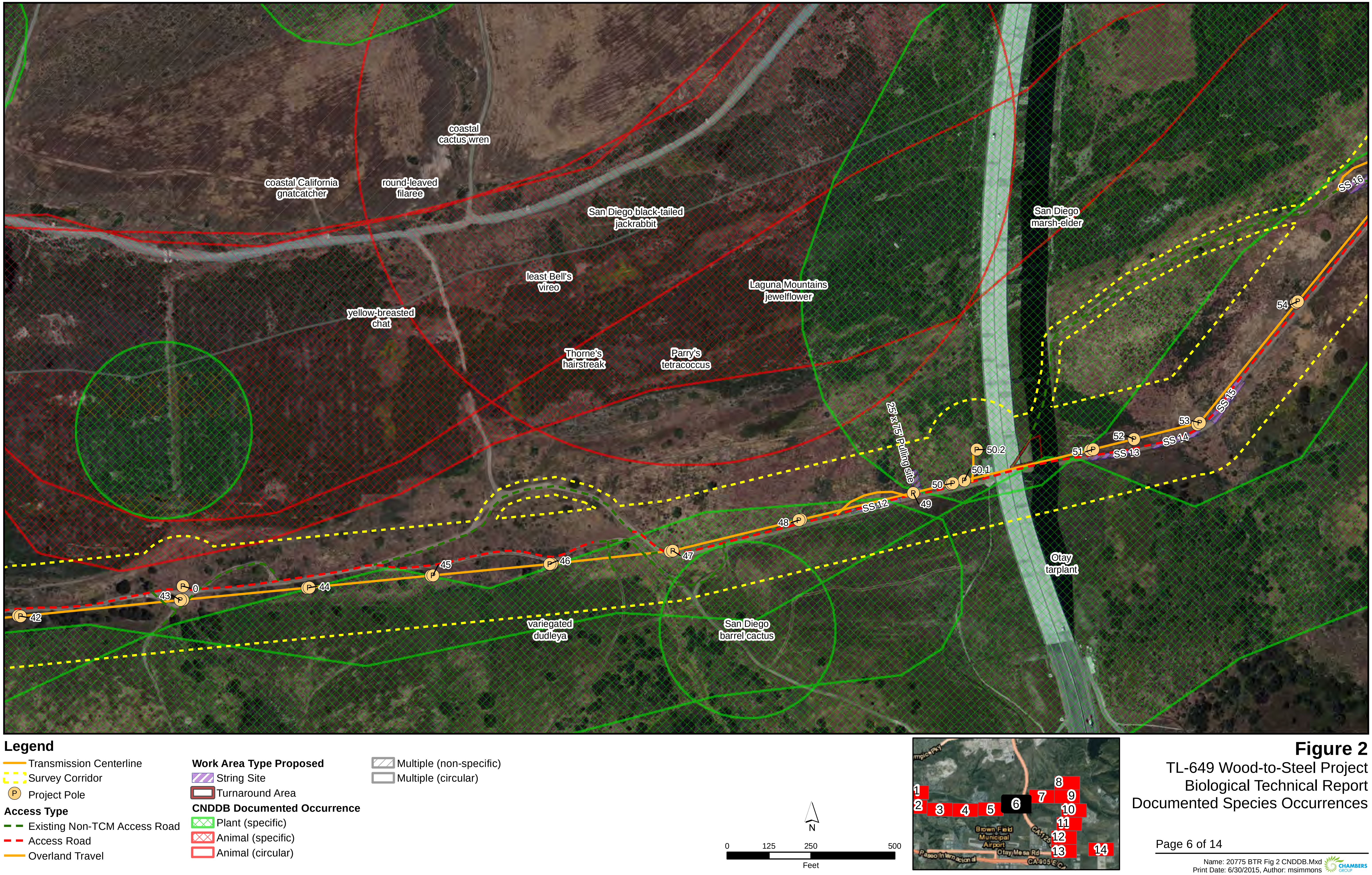

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 6 of 14

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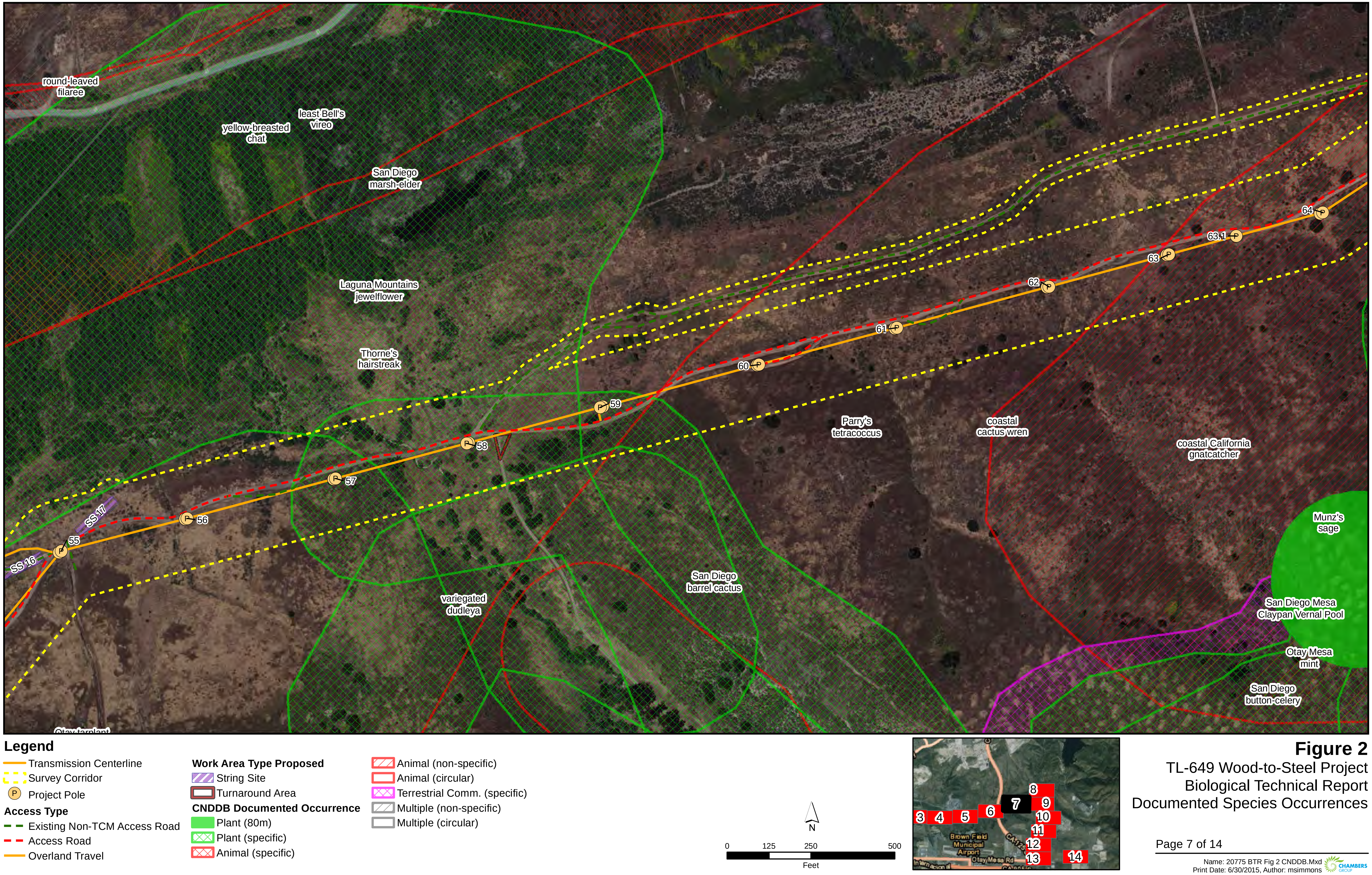

Figure 2
TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 7 of 14

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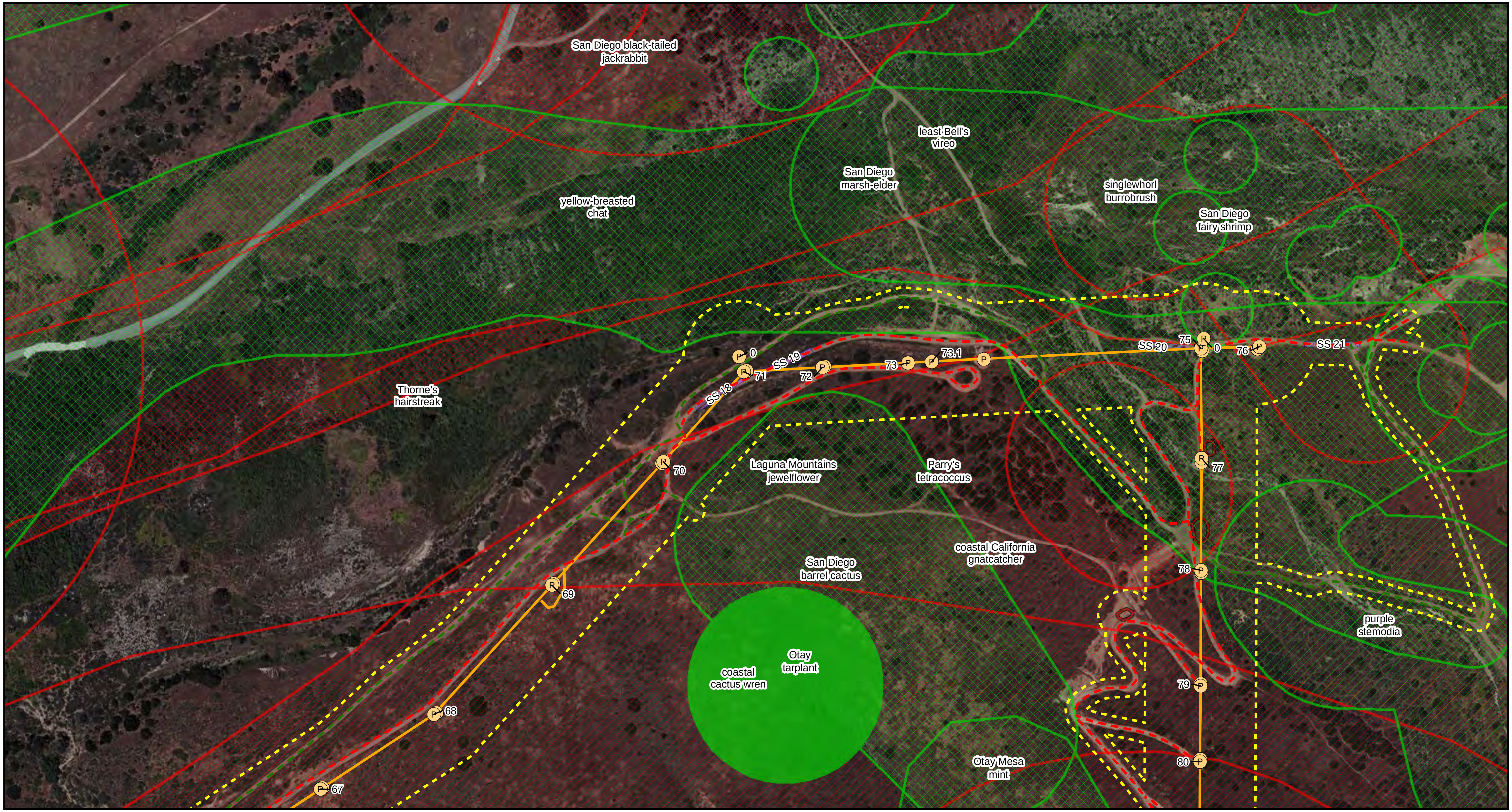


Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

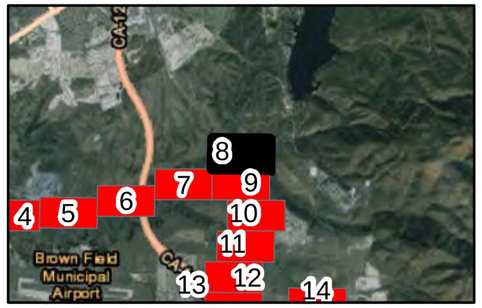
- ▨ String Site
- ☐ Turnaround Area

CNDDB Documented Occurrence

- 🟩 Plant (80m)
- ▨ Plant (specific)
- ▨ Plant (non-specific)
- ▨ Animal (specific)
- ▨ Animal (non-specific)
- ☐ Animal (circular)
- ☐ Multiple (circular)

N

0 125 250 500
Feet



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Biological Technical Report
Documented Species Occurrences

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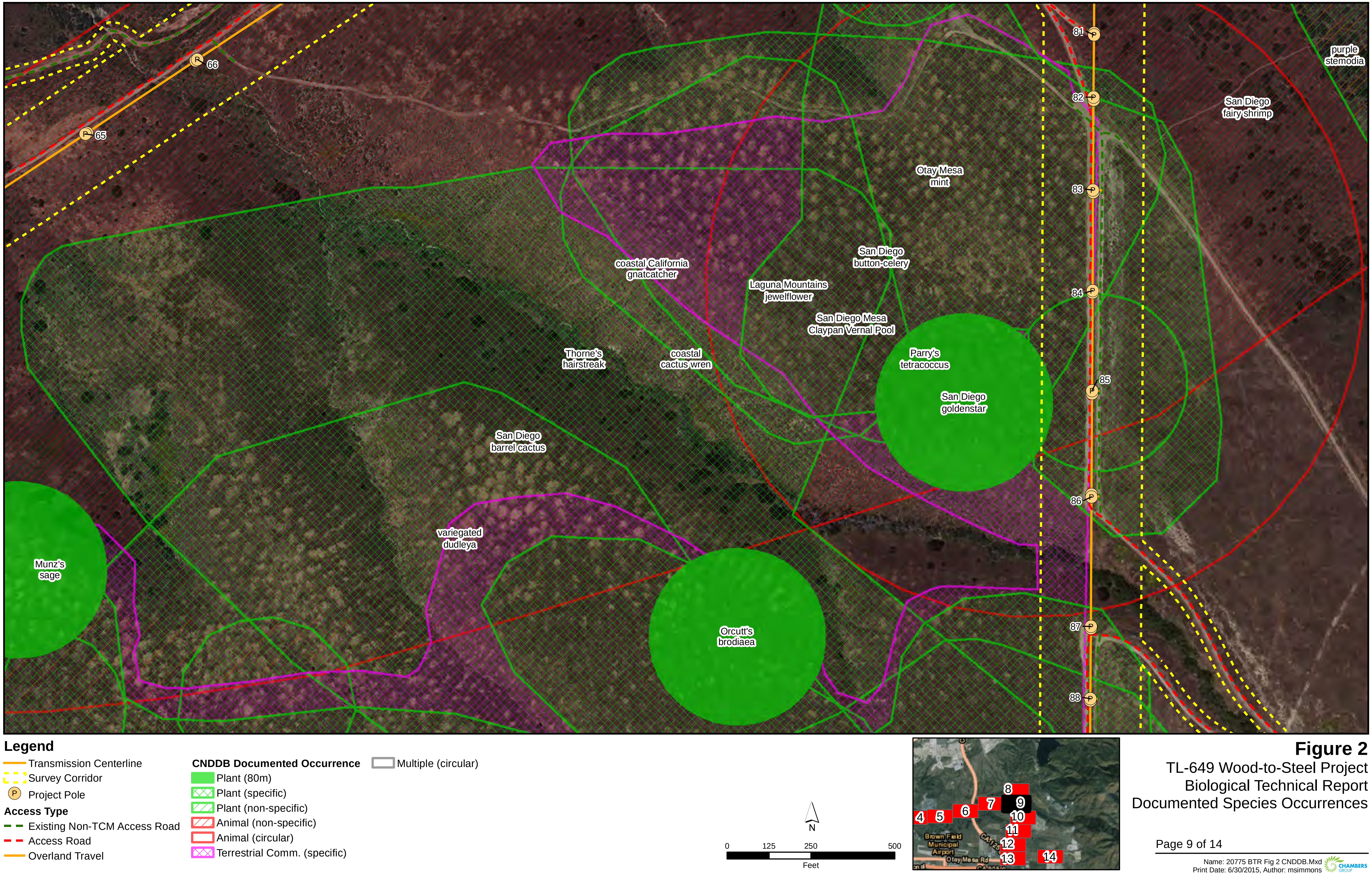

Figure 2

TL-649 Wood-to-Steel Project
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Documented Species Occurrences

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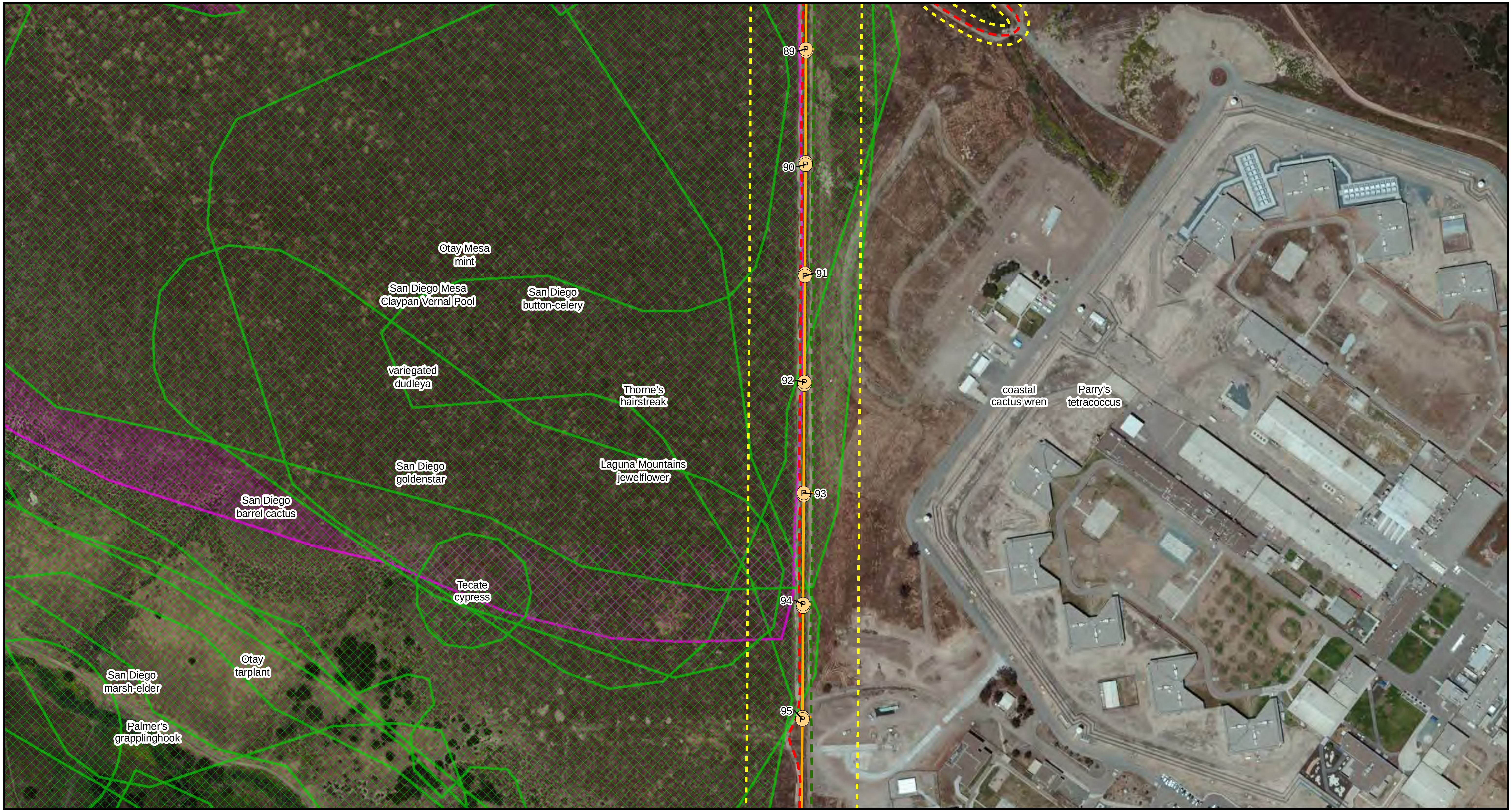

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

CNDDB Documented Occurrence

- ▨ Plant (specific)
- ☐ Animal (circular)
- ▨ Terrestrial Comm. (specific)
- ☐ Multiple (circular)

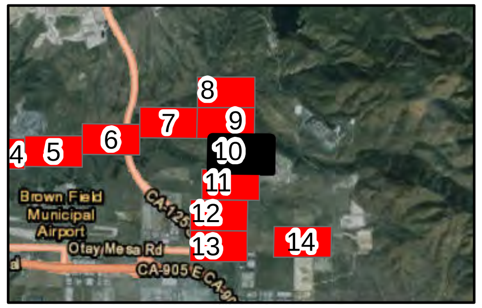

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

━ Transcription Centerline
┅ Survey Corridor
Ⓟ Project Pole

Access Type

╍ Existing Non-TCM Access Road
╍ Access Road
━ Overland Travel

Work Area Type Proposed

▨ String Site

CNDDB Documented Occurrence

▨ Plant (specific)
☐ Animal (circular)
☐ Multiple (circular)

N

0 125 250 500
Feet

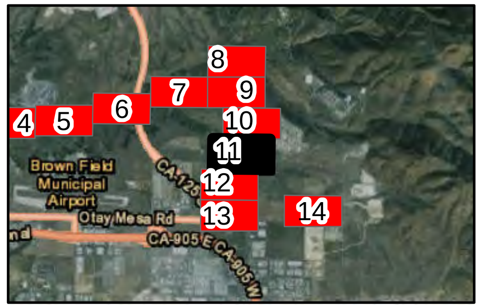

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Name: 20775 BTR Fig 2 CNDDB.Mxd
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Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road

Work Area Type Proposed

- ▨ String Site

CNDDB Documented Occurrence

- ▨ Plant (specific)
- ▭ Animal (circular)
- ▨ Terrestrial Comm. (specific)
- ▨ Multiple (specific)
- ▭ Multiple (circular)

N

0 125 250 500
Feet

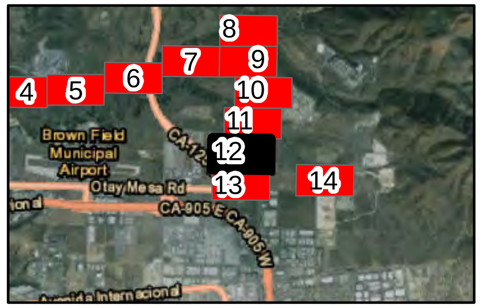

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 12 of 14

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons

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Legend

🟨 Survey Corridor

▭ Multiple (circular)

Access Type

- - Existing Non-TCM Access Road

- - Access Road

CNDDB Documented Occurrence

🟥 Animal (80m)

▭ Animal (circular)

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

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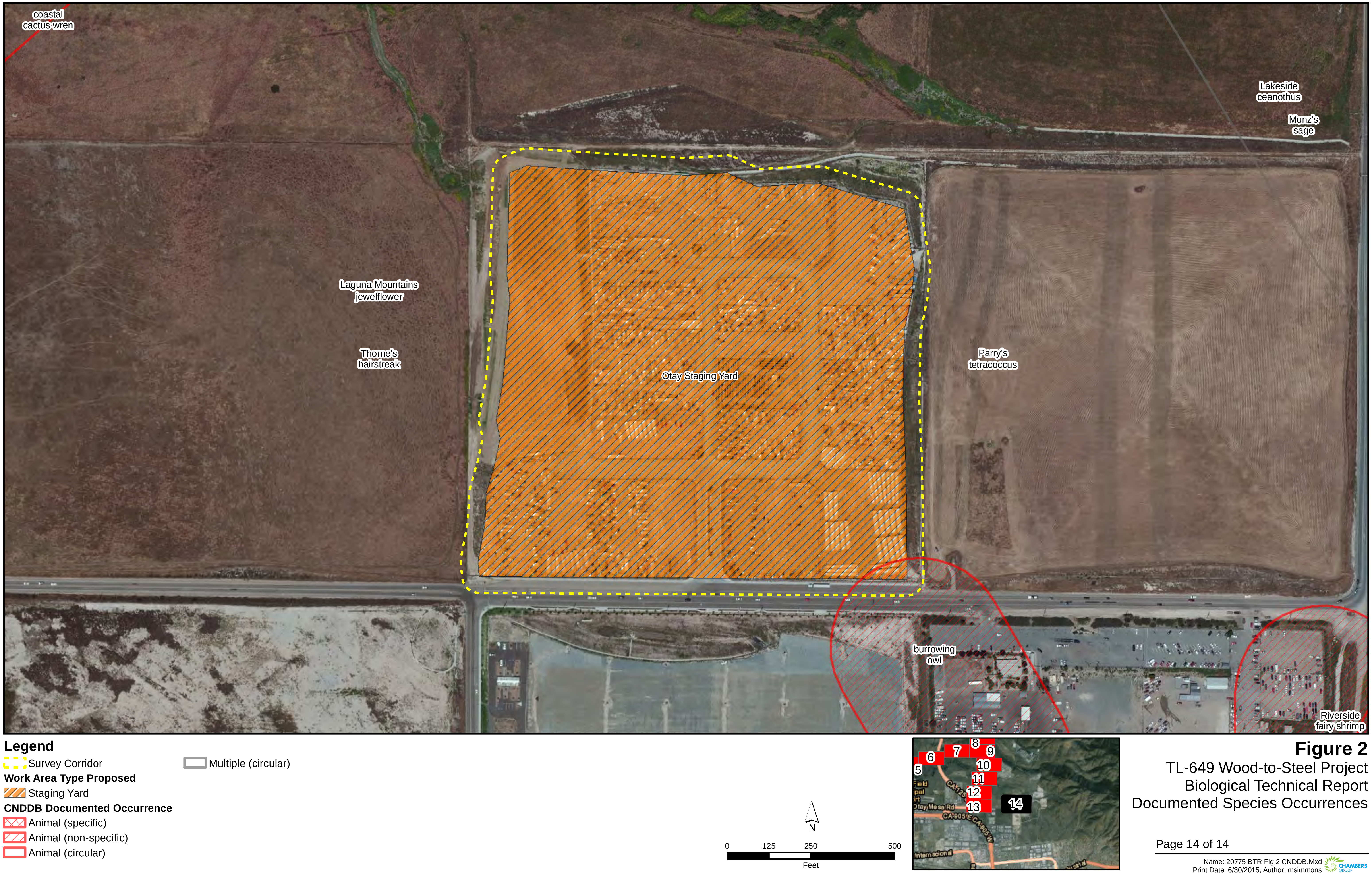

Figure 2

TL-649 Wood-to-Steel Project
Biological Technical Report
Documented Species Occurrences

Page 14 of 14

Name: 20775 BTR Fig 2 CNDDB.Mxd
Print Date: 6/30/2015, Author: msimmons

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Legend

▨ Survey Corridor

Work Area Type Proposed

▨ Staging Yard

USFWS Critical Habitat

▨ Coastal California gnatcatcher

N

0 125 250 500

Feet

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Page 1 of 14

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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Legend

- Transcission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

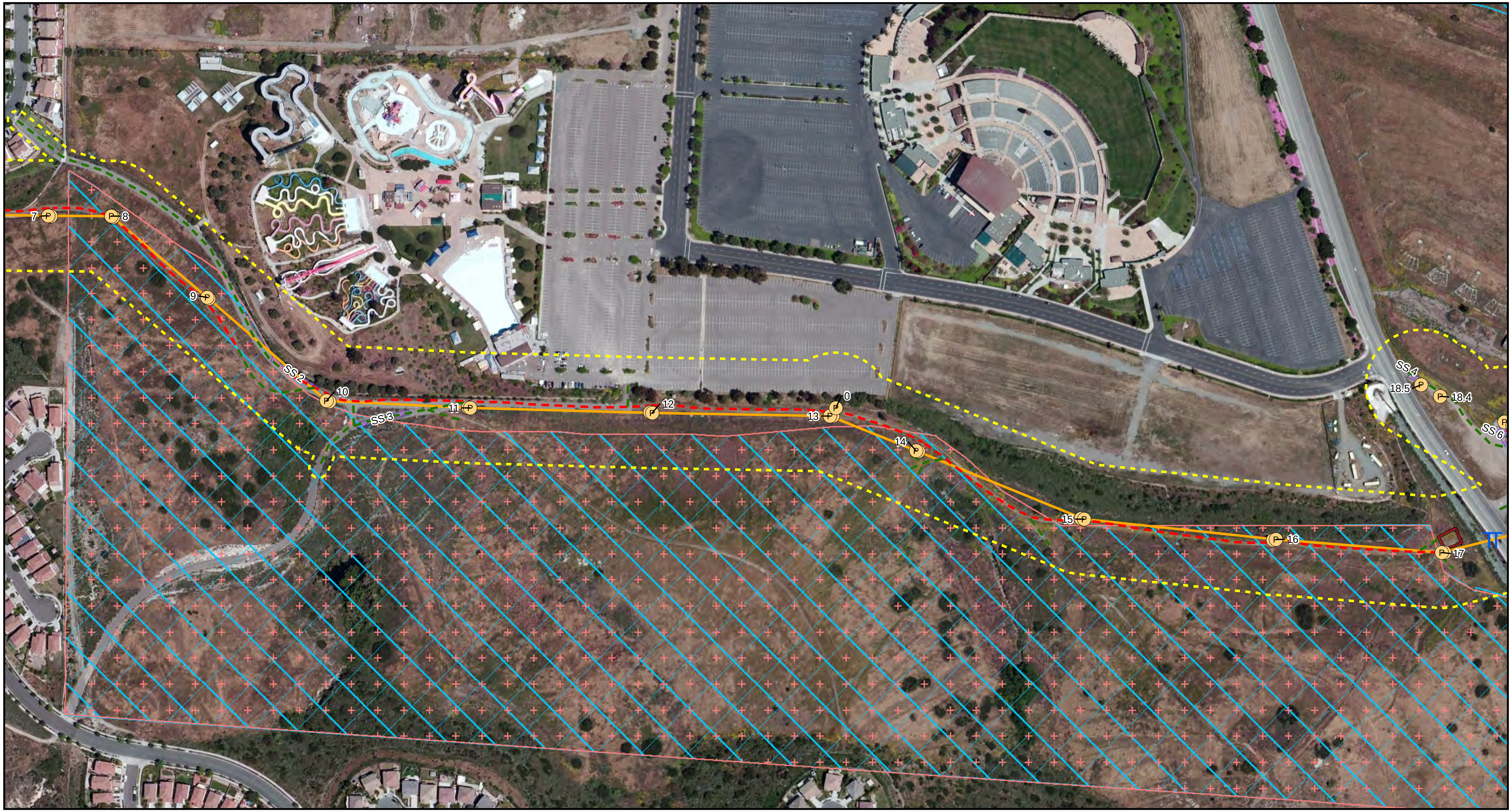
Work Area Type Proposed

- ▨ String Site
- ▭ Turnaround Area

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole
- ╥╥ Guard Structure

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▨ String Site
- ☐ Turnaround Area

USFWS Critical Habitat

- ☐ Coastal California gnatcatcher
- ☐ Otay tarplant

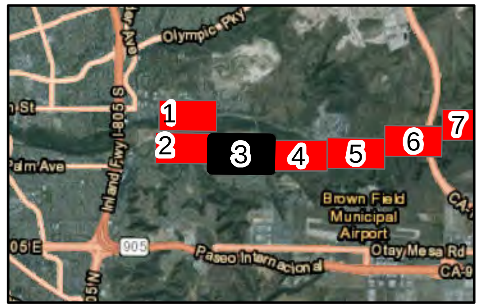


Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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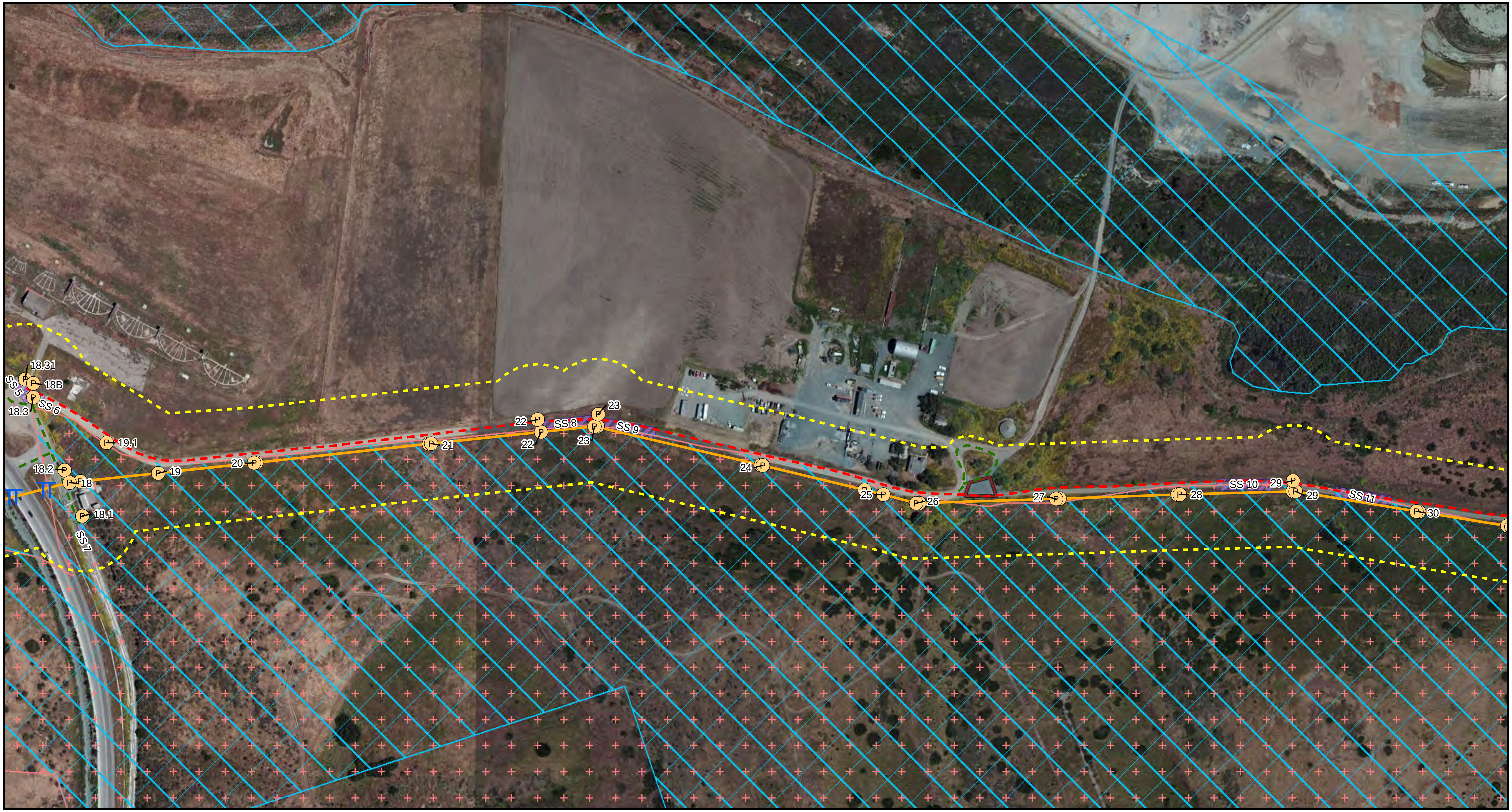

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole
Π Guard Structure

Access Type
Existing Non-TCM Access Road
Access Road

Work Area Type Proposed
▨ String Site
☐ Turnaround Area

USFWS Critical Habitat
☐ Coastal California gnatcatcher
☐ Otay tarplant

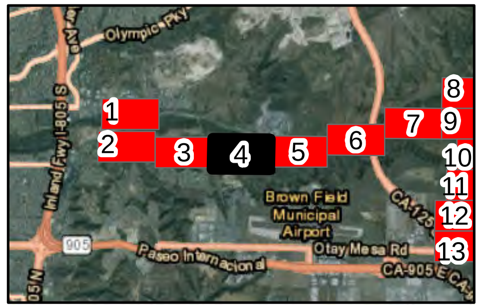

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

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Print Date: 6/30/2015, Author: msimmons

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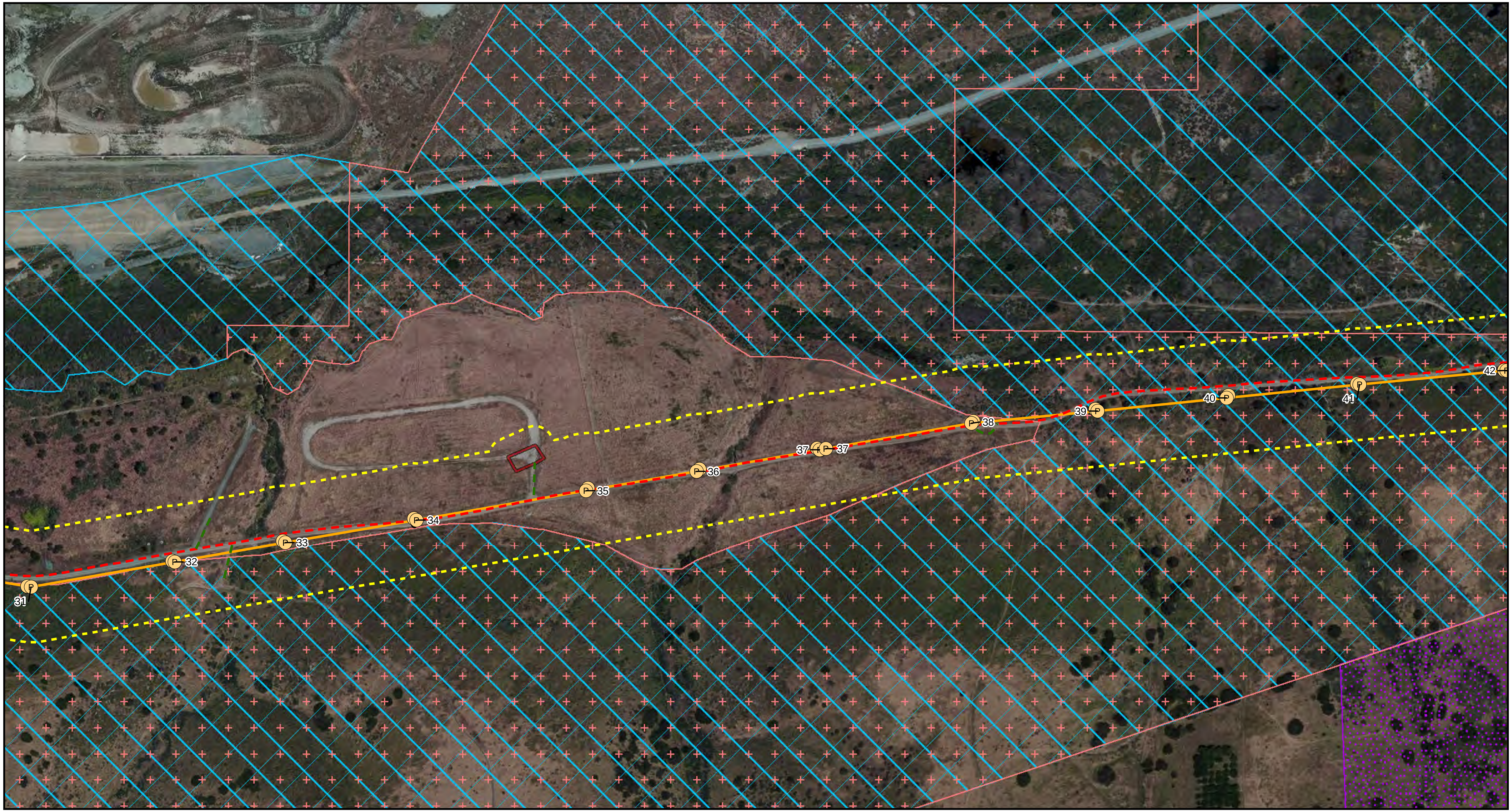


Legend

- Transcription Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▭ Turnaround Area

USFWS Critical Habitat

- ▭ Coastal California gnatcatcher
- ▭ Otay tarplant
- ▨ Quino checkerspot butterfly

N

0 125 250 500

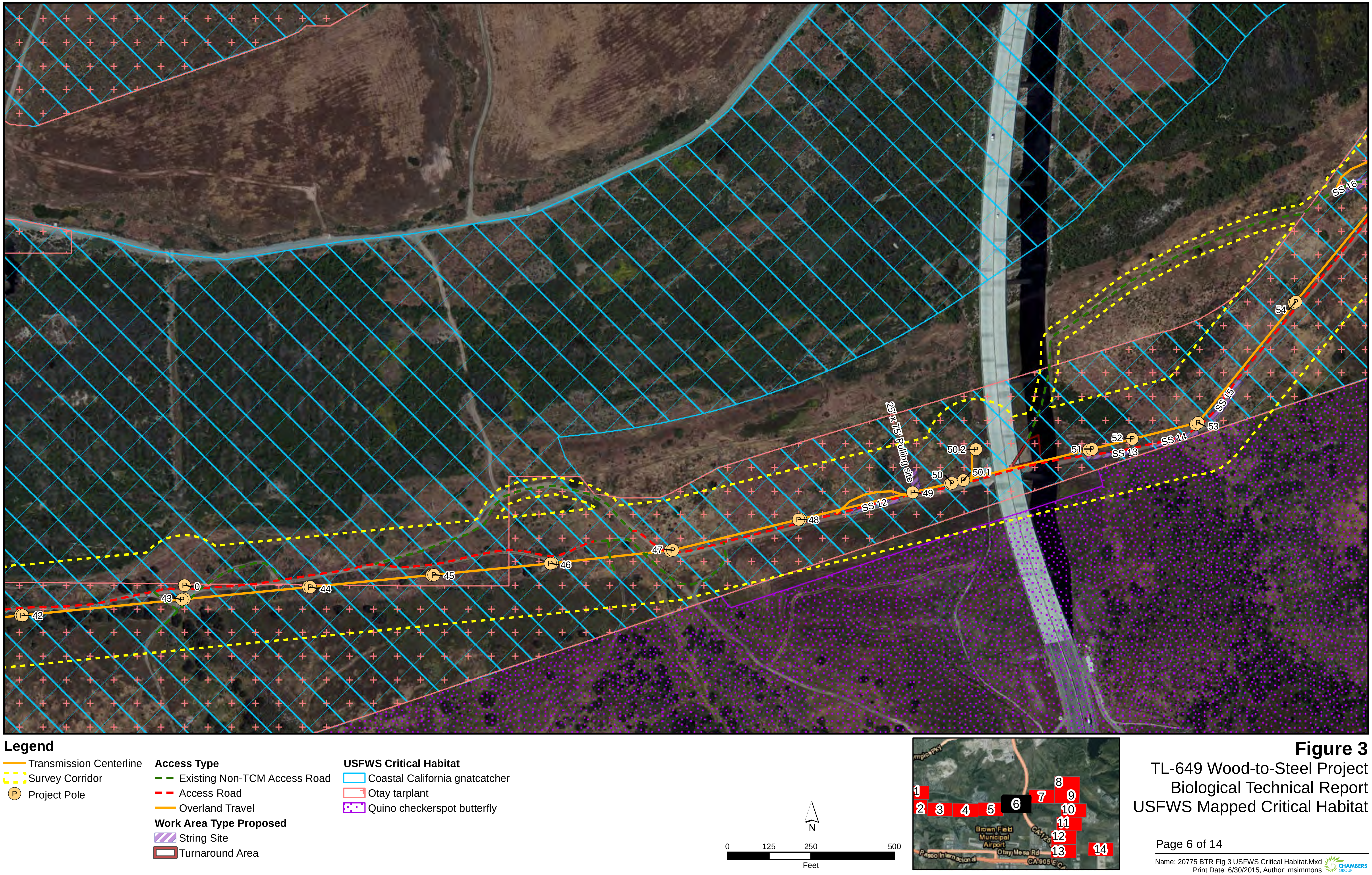
Feet

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Page 5 of 14

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

— Transmission Centerline
⋯ Survey Corridor
Ⓟ Project Pole

Access Type
- - Existing Non-TCM Access Road
- - Access Road
— Overland Travel

Work Area Type Proposed
▨ String Site
☐ Turnaround Area

USFWS Critical Habitat
☐ Coastal California gnatcatcher
☐ Otay tarplant
▨ Quino checkerspot butterfly

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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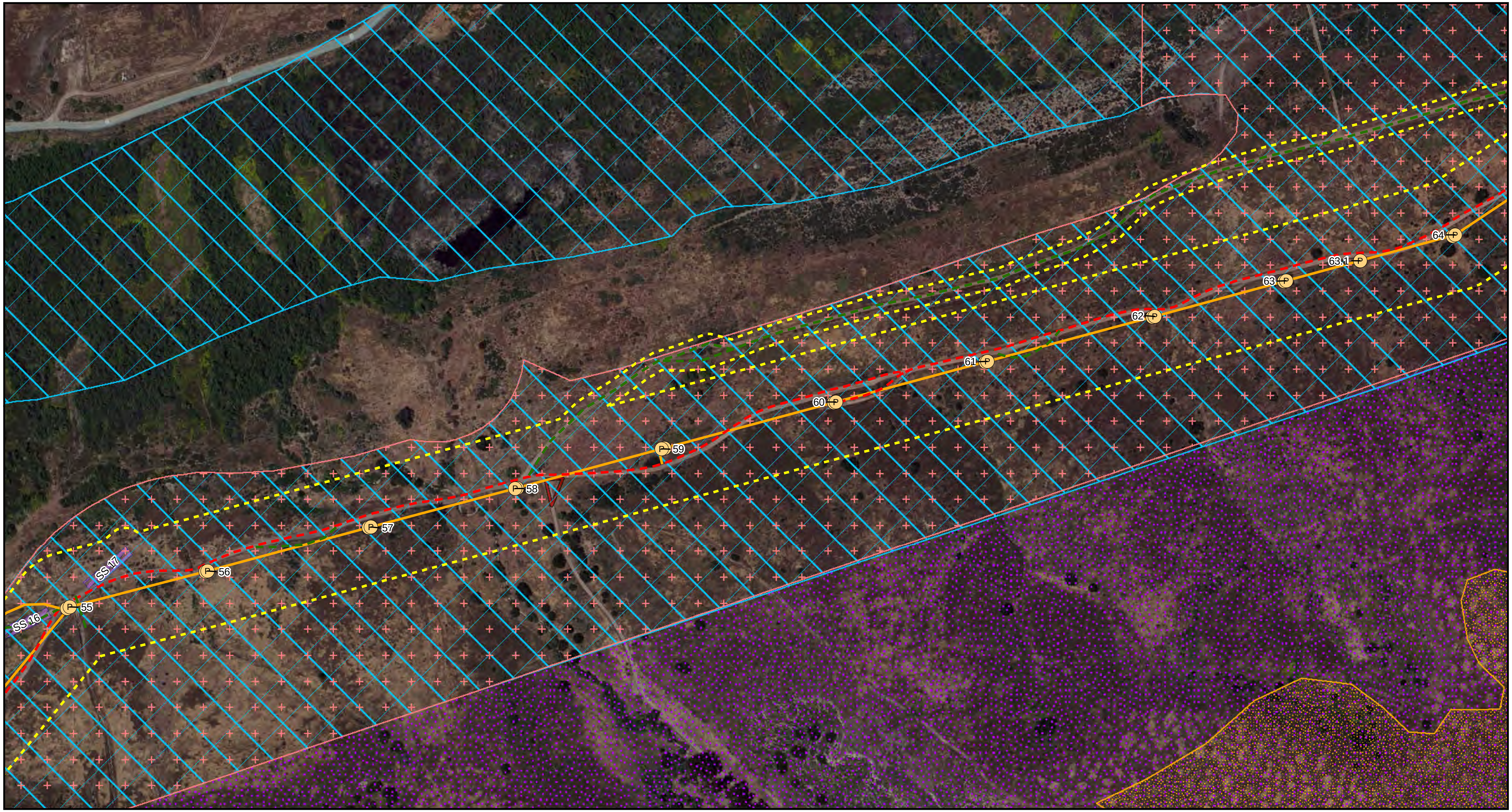

Legend

- 🟧 Transmission Centerline
- ▨ Survey Corridor
- Ⓟ Project Pole

Access Type

- 🟩 Existing Non-TCM Access Road
- 🟥 Access Road
- 🟧 Overland Travel

Work Area Type Proposed

- ▨ String Site
- ▭ Turnaround Area

USFWS Critical Habitat

- ▭ Coastal California gnatcatcher
- ▭ Otay tarplant
- ▨ Quino checkerspot butterfly
- ▨ San Diego fairy shrimp

N

0 125 250 500
Feet

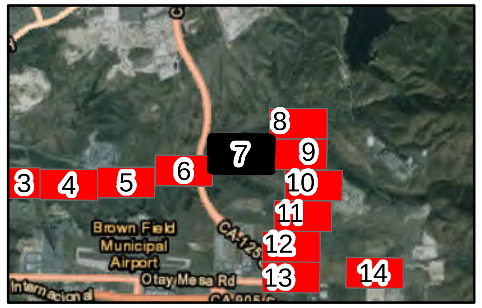

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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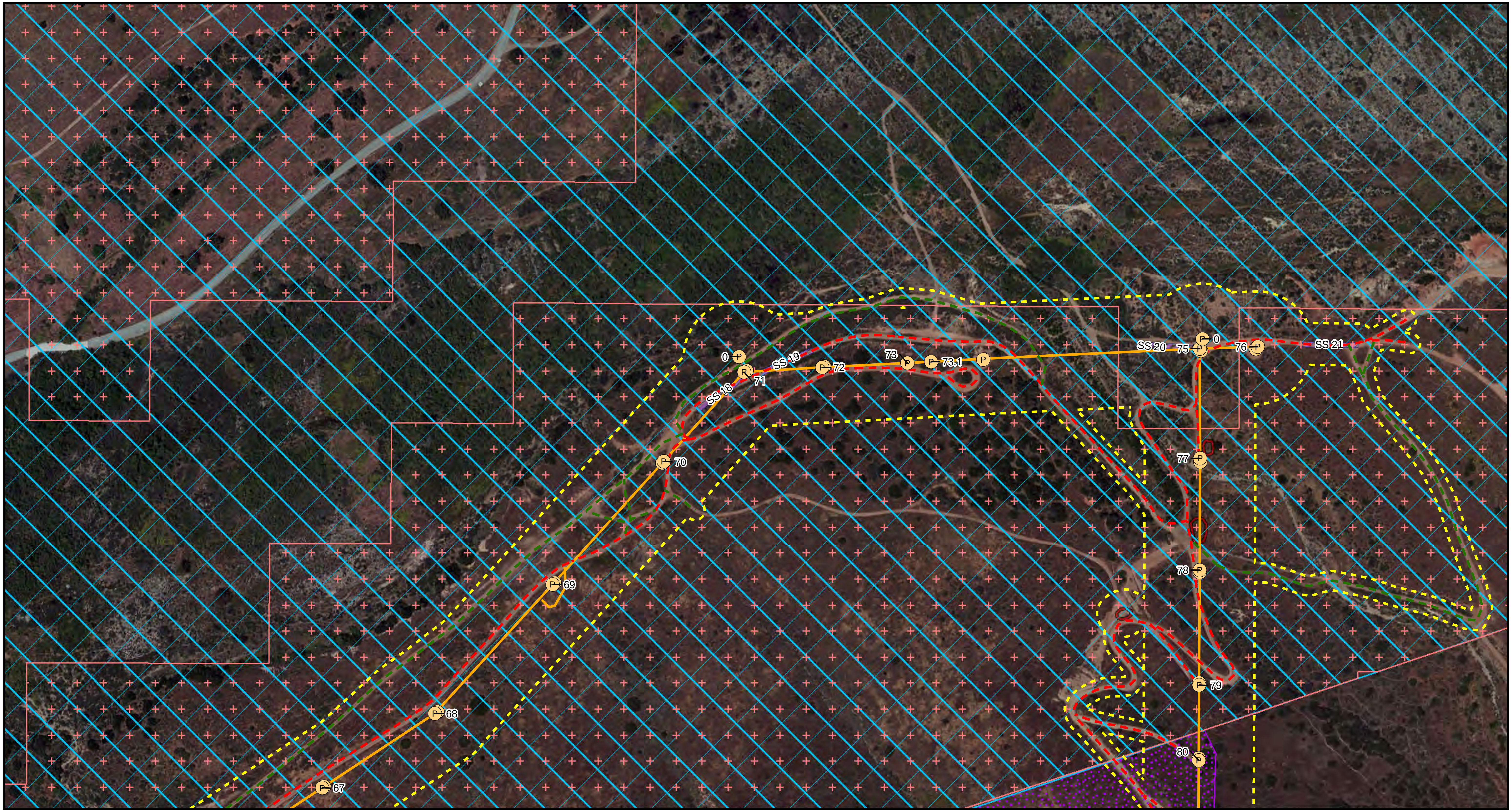

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ String Site
- ☐ Turnaround Area

USFWS Critical Habitat

- ☐ Coastal California gnatcatcher
- ☐ Otay tarplant
- ☐ Quino checkerspot butterfly

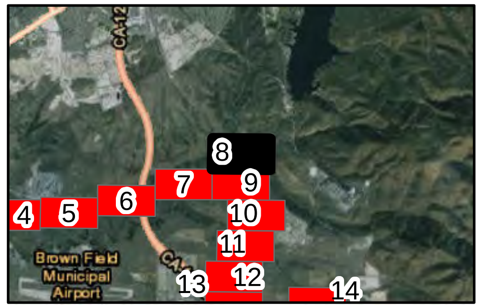

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

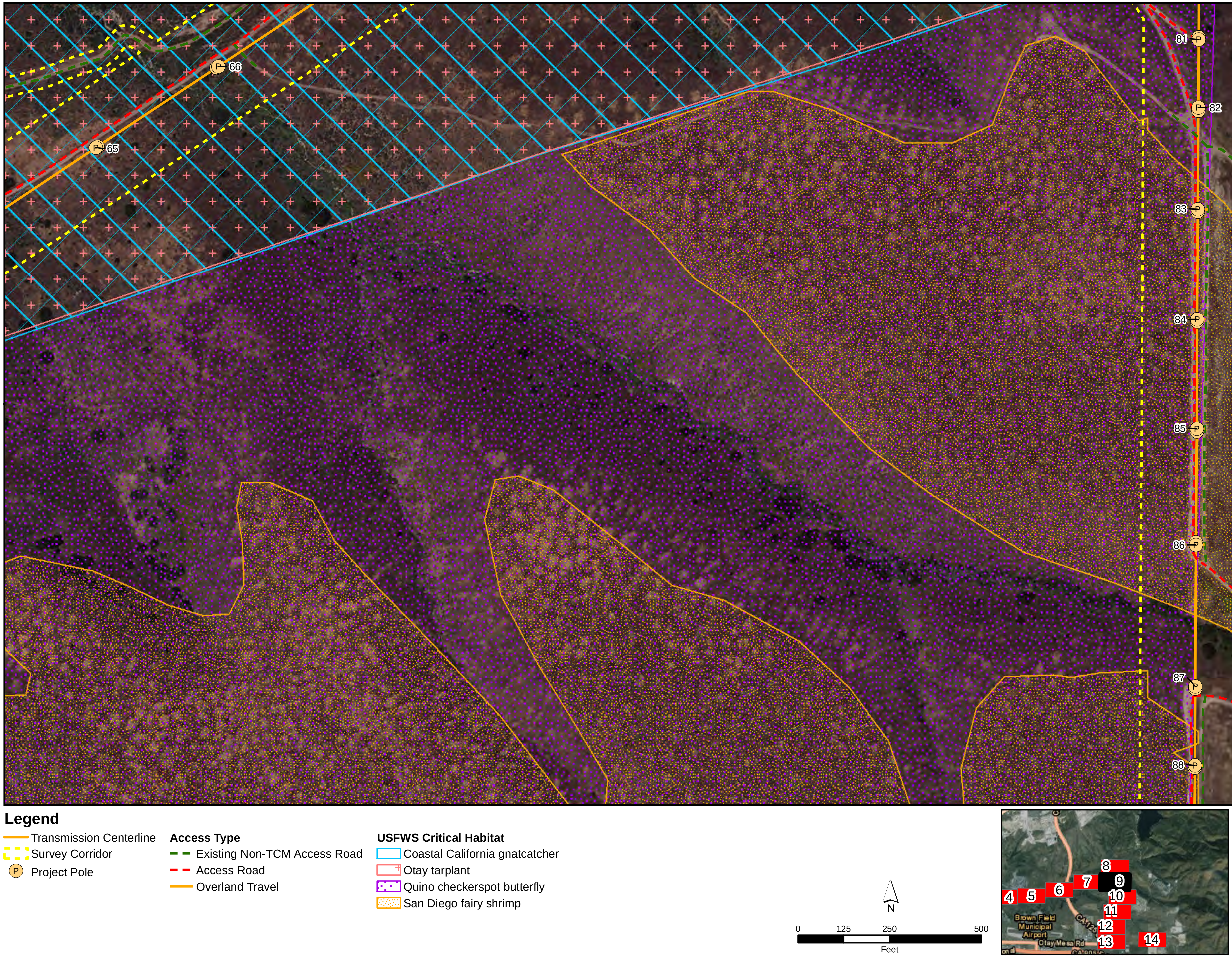

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Page 9 of 14

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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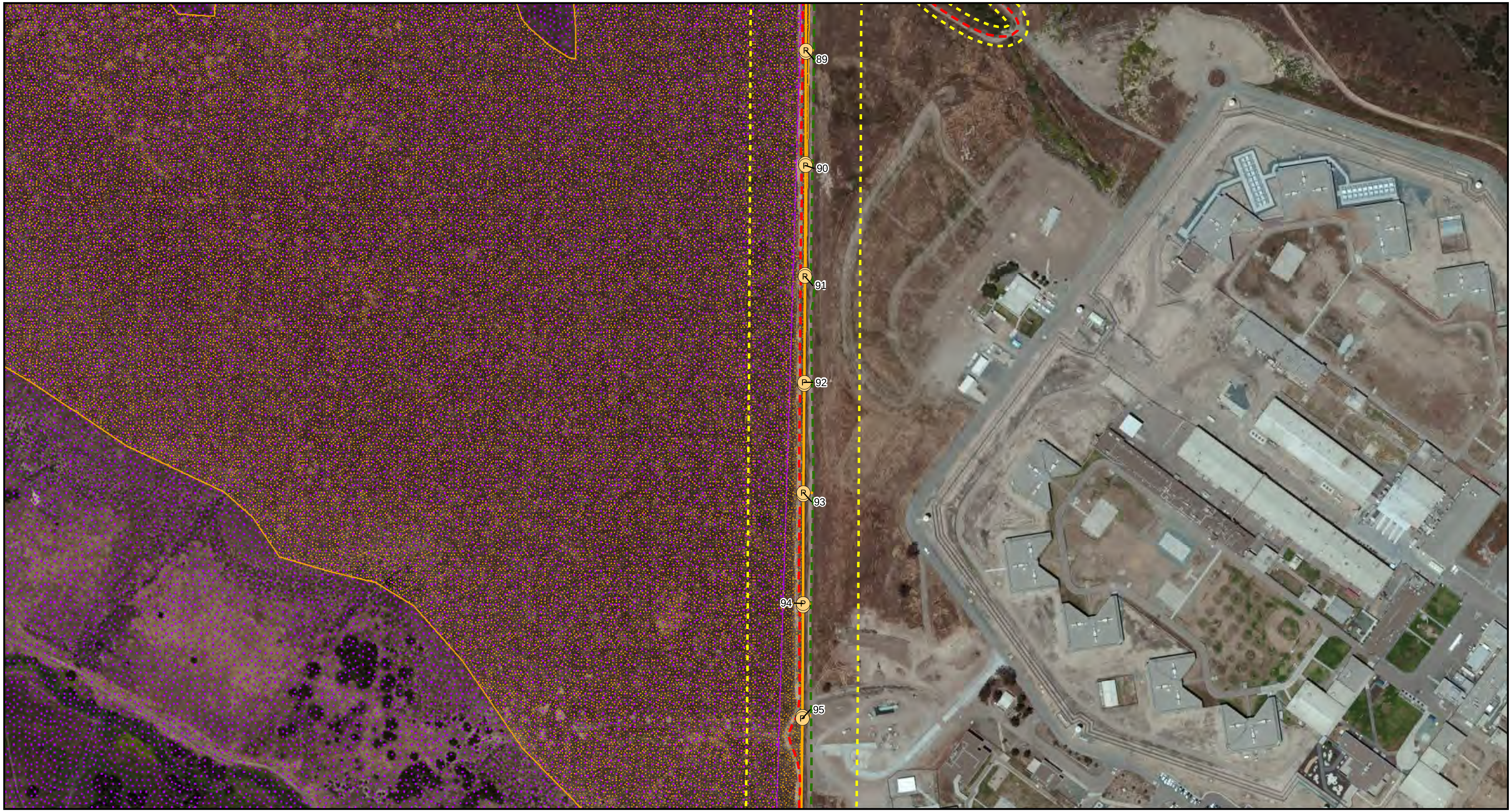

Legend

Transmission Centerline
Survey Corridor
P Project Pole

Access Type

Existing Non-TCM Access Road
Access Road
Overland Travel

USFWS Critical Habitat

Quino checkerspot butterfly
San Diego fairy shrimp

N

0 125 250 500
Feet

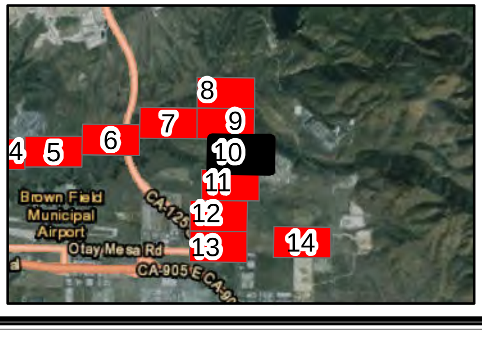

Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

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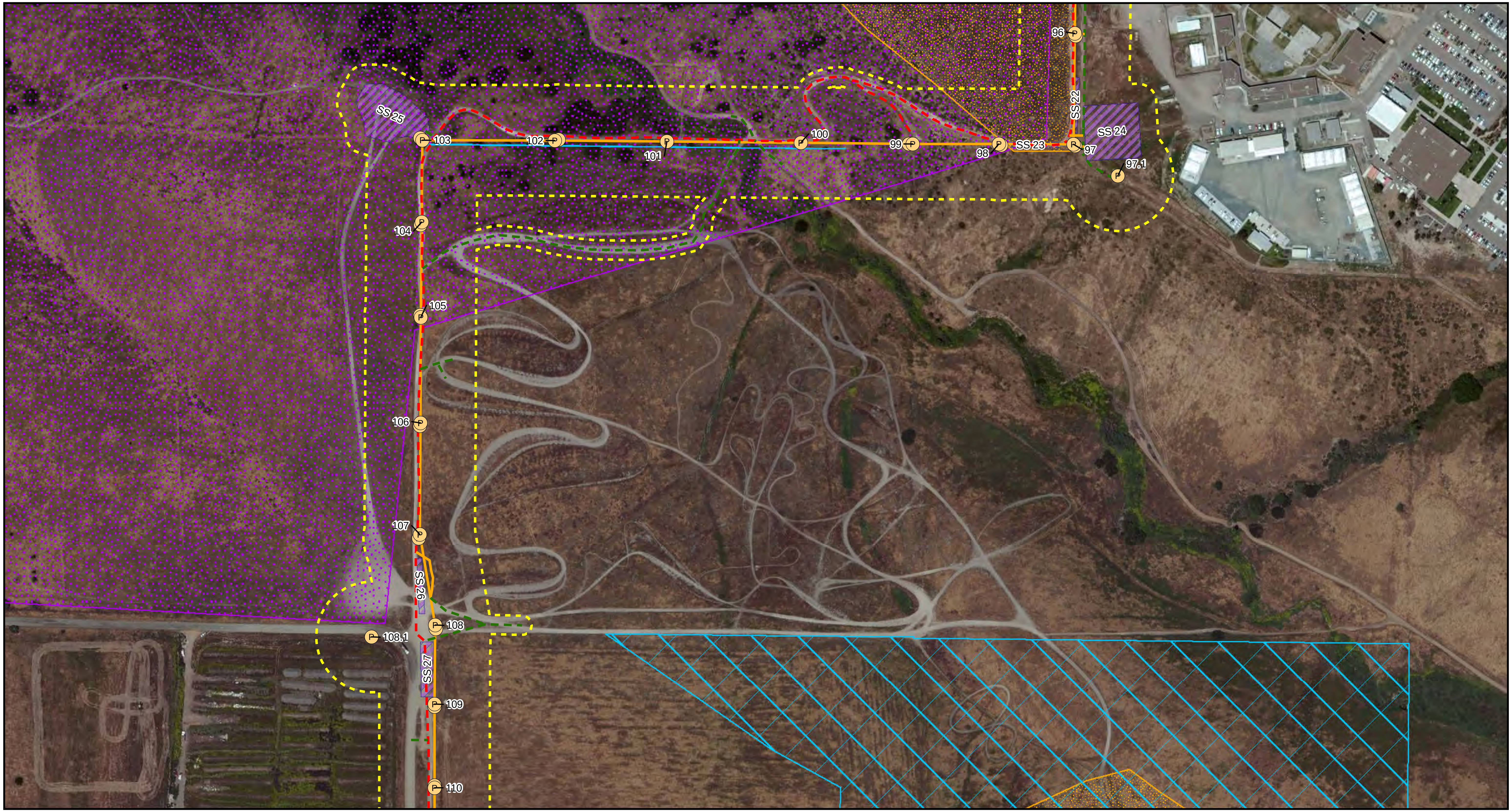


Legend

— Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type
- - Existing Non-TCM Access Road
- - Access Road
— Overland Travel

Work Area Type Proposed
▨ String Site

USFWS Critical Habitat
▭ Coastal California gnatcatcher
▨ Quino checkerspot butterfly
▨ San Diego fairy shrimp

N

0 125 250 500
Feet

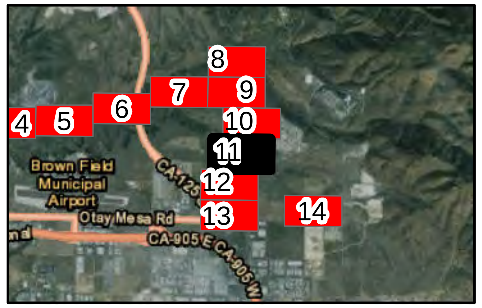


Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

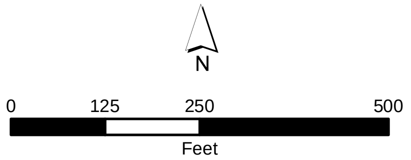
Legend

🟧 Transmission Centerline
🟨 Survey Corridor
Ⓟ Project Pole

Access Type
🟩 Existing Non-TCM Access Road
🟥 Access Road

Work Area Type Proposed
▨ String Site

USFWS Critical Habitat
☐ Coastal California gnatcatcher
▨ San Diego fairy shrimp



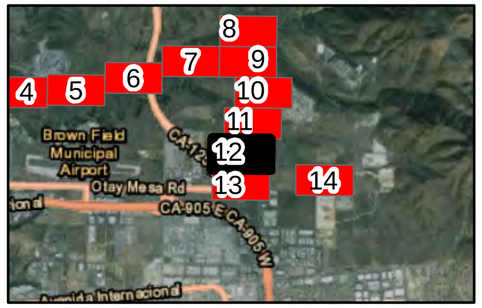


Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

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Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

⬚ Survey Corridor

Work Area Type Proposed

▨ Staging Yard

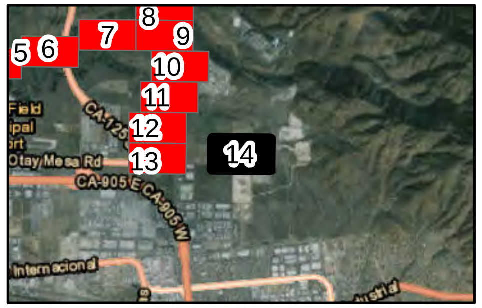


Figure 3

TL-649 Wood-to-Steel Project
Biological Technical Report
USFWS Mapped Critical Habitat

Name: 20775 BTR Fig 3 USFWS Critical Habitat.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

🟨 Survey Corridor

Work Area Type

▨ Proposed Staging Yard

Vegetation (MCV II)

🟧 3. California Sagebrush-California buckwheat scrub

⬜ 7. Urban and Developed

⬜ 8. Disturbed

🟪 17. Tamarisk Thickets

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Page 1 of 30

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

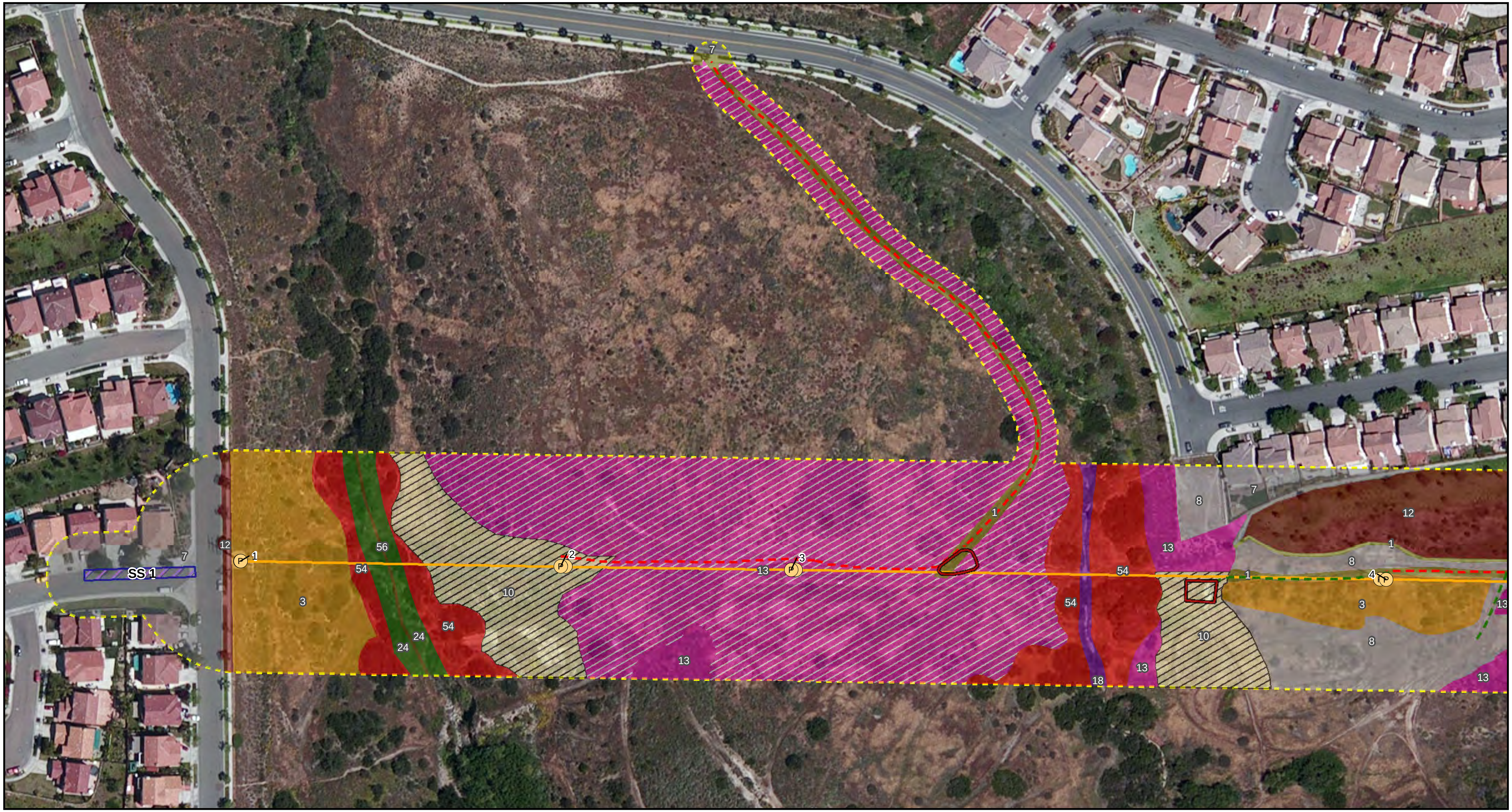


Figure 4
TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ╍ Existing Non-TCM Access Road
- ╍ Access Road

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround

Vegetation (MCV II)

- ■ 1. Bareground
- ■ 3. California Sagebrush-California buckwheat scrub
- ■ 7. Urban and Developed
- ■ 8. Disturbed
- ▨ 10. Annual Brome Grassland
- ■ 12. Landscape/Ornamental
- ■ 13. Coast Prickly Pear Scrub
- ▨ 13. Disturbed Coast Prickly Pear Scrub
- ■ 18. Mulefat Thickets
- ■ 24. Arroyo Willow - Mulefat Woodland
- ■ 54. Lemonade Berry Stand
- ■ 56. Bulrush Marsh

N

0 50 100 200
Feet

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

— Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

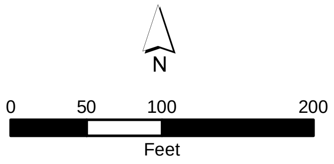
- - Existing Non-TCM Access Road
- - Access Road

Work Area Type

▨ Proposed String Site

Vegetation (MCV II)

■ 1. Bareground
■ 3. California Sagebrush-California buckwheat scrub
■ 7. Urban and Developed
■ 8. Disturbed
▨ 10. Annual Brome Grassland
■ 11. Purple Needlegrass Grassland
■ 12. Landscape/Ornamental
■ 13. Coast Prickly Pear Scrub
■ 17. Tamarisk Thickets
■ 18. Mulefat Thickets



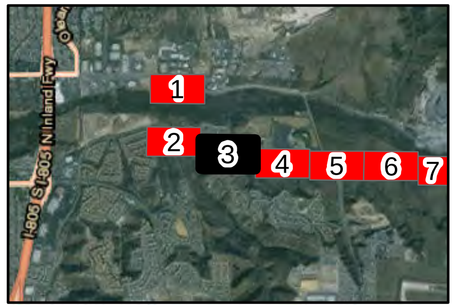


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

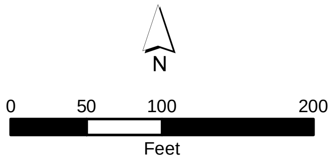
- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- 7. Urban and Developed
- 8. Disturbed
- ▨ 10. Annual Brome Grassland
- 12. Landscape/Ornamental



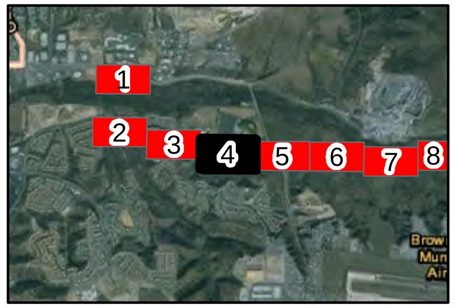


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

Transmission Centerline

Survey Corridor

Ⓟ Project Pole

Guard Structure

Access Type

Existing Non-TCM Access Road

Access Road

Work Area Type

▨ Proposed String Site

☐ Proposed Turnaround

Vegetation (MCV II)

1. Bareground
3. California Sagebrush-California buckwheat scrub
7. Urban and Developed
8. Disturbed
10. Annual Brome Grassland
11. Purple Needlegrass Grassland
12. Landscape/Ornamental
50. Vegetated Rip-rap Channel
51. Castor Bean Thicket

N

0 50 100 200

Feet

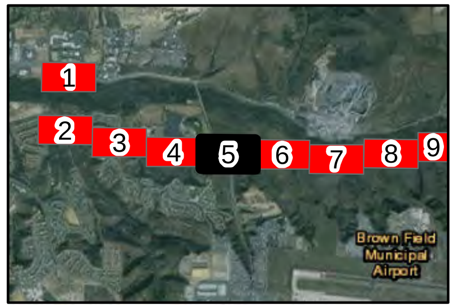


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road

Work Area Type

▨ Proposed String Site
▭ Proposed Turnaround

Vegetation (MCV II)

1. Bareground
3. California Sagebrush-California buckwheat scrub
7. Urban and Developed
8. Disturbed
9. Giant Reed Breaks
10. Annual Brome Grassland
11. Purple Needlegrass Grassland
12. Landscape/Ornamental
51. Castor Bean Thicket

N

0 50 100 200
Feet

Figure 4
TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Page 6 of 30

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
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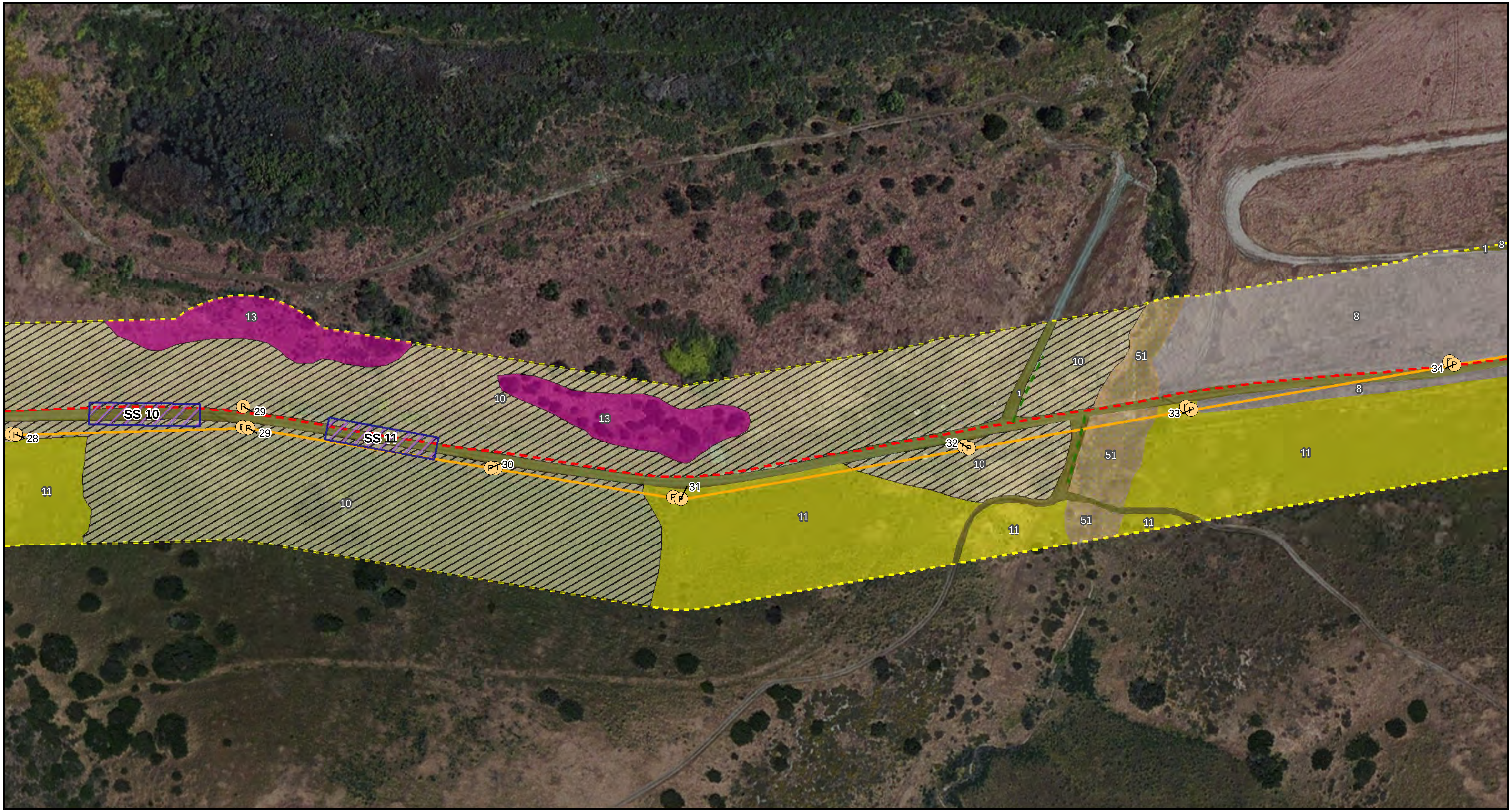


Legend

━ Transmission Centerline
┅ Survey Corridor
Ⓟ Project Pole

Access Type

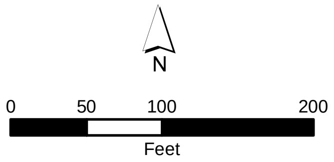
- - Existing Non-TCM Access Road
- - Access Road

Work Area Type

▨ Proposed String Site

Vegetation (MCV II)

■ 1. Bareground
■ 8. Disturbed
▨ 10. Annual Brome Grassland
■ 11. Purple Needlegrass Grassland
■ 13. Coast Prickly Pear Scrub
■ 51. Castor Bean Thicket



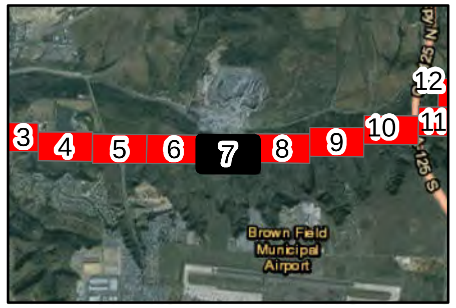


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

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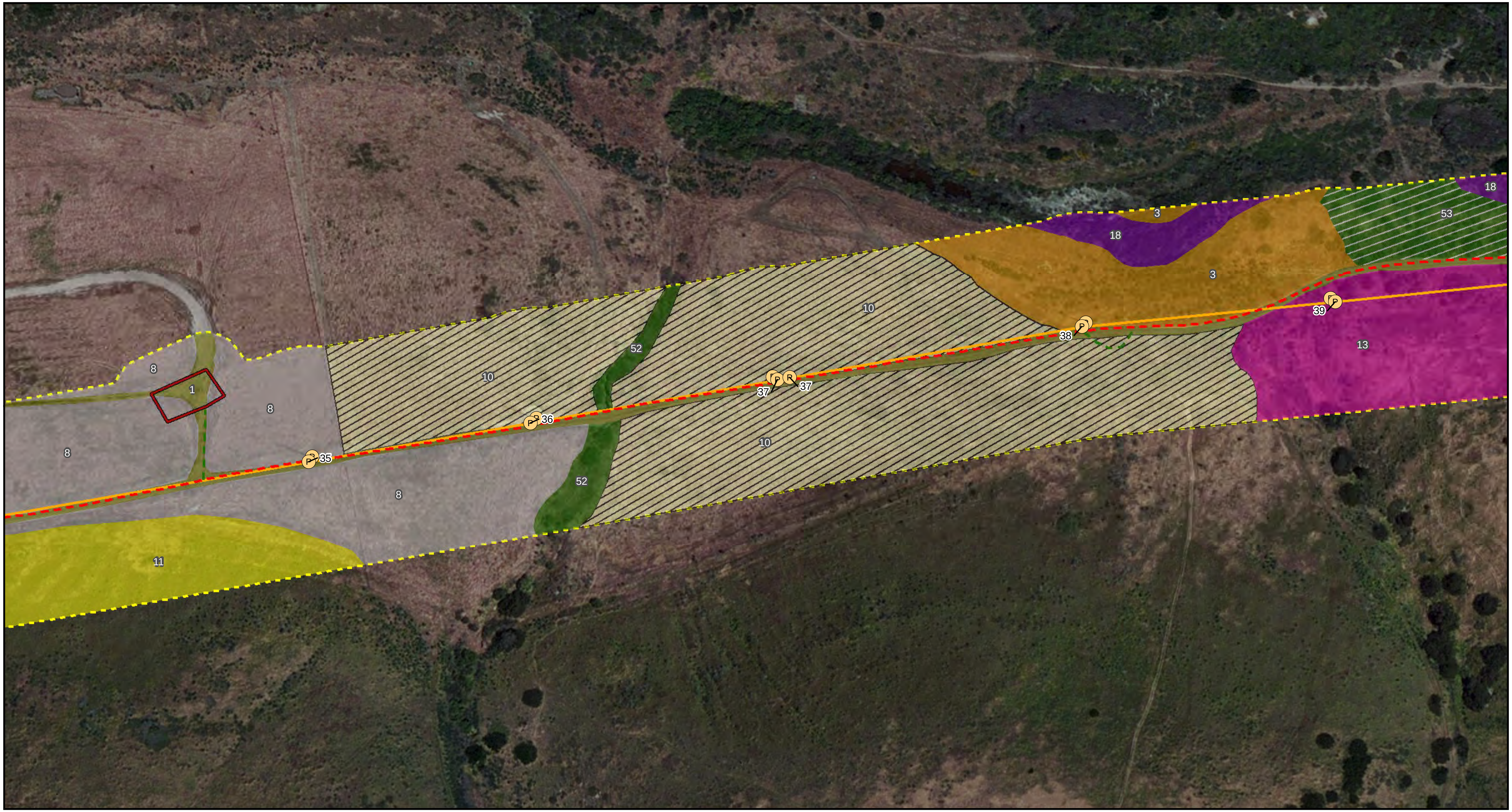

Legend

━ Transmission Centerline
┅ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type

▭ Proposed Turnaround

Vegetation (MCV II)

🟫	1. Bareground
🟧	3. California Sagebrush-California buckwheat scrub
⬜	8. Disturbed
▨	10. Annual Brome Grassland
🟨	11. Purple Needlegrass Grassland
🟪	13. Coast Prickly Pear Scrub
🟪	18. Mulefat Thickets
🟩	52. Singlewhorl Burrowbush Scrub
▨	53. Singlewhorl Burrow Brush-broom Baccharis Scrub

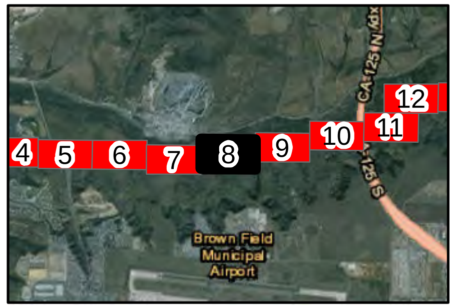

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

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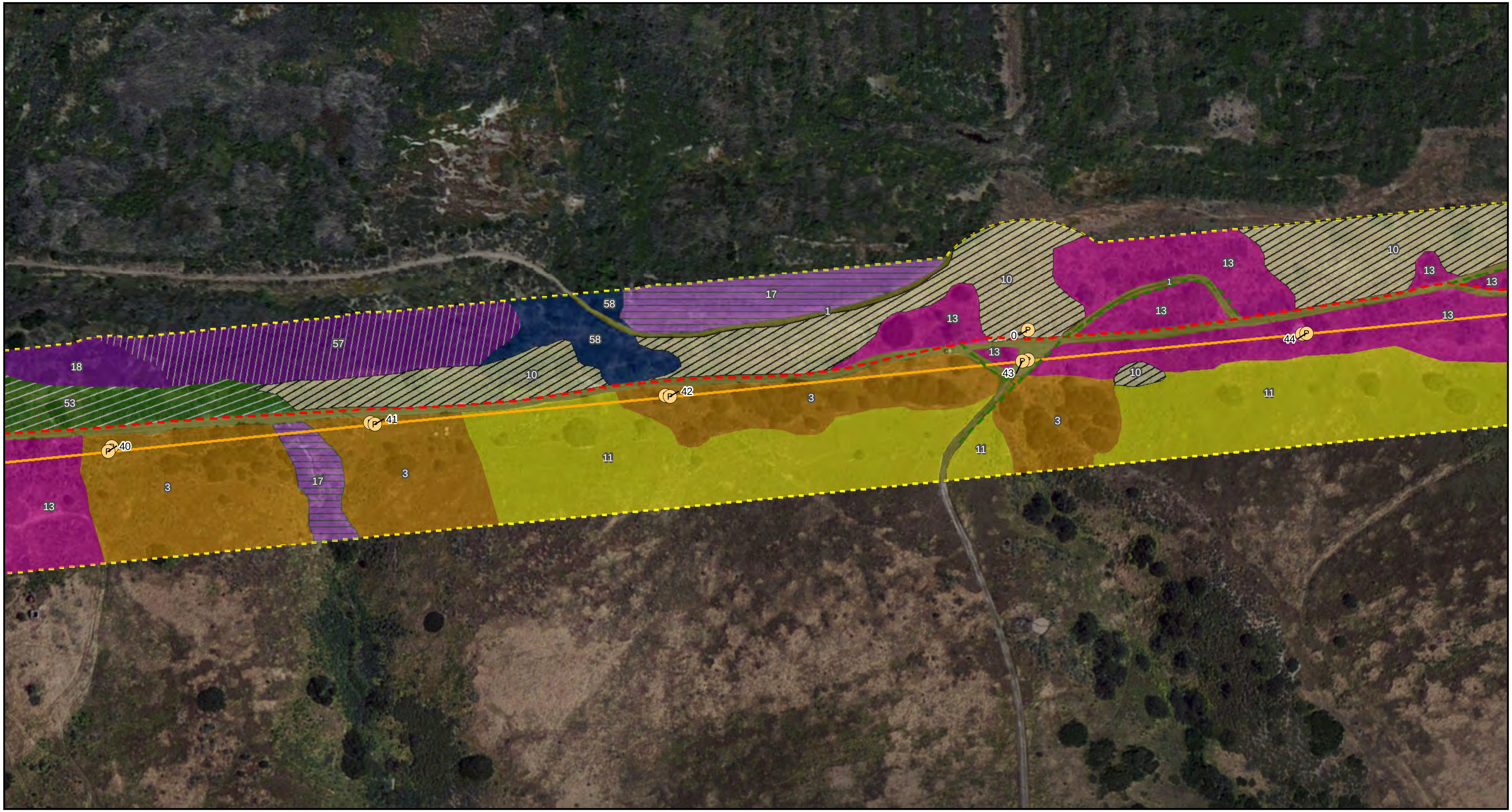


Legend

— Transmission Centerline
- - Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Vegetation (MCV II)

▨ 1. Bareground
▨ 3. California Sagebrush-California buckwheat scrub
▨ 10. Annual Brome Grassland
▨ 11. Purple Needlegrass Grassland
▨ 13. Coast Prickly Pear Scrub
▨ 17. Tamarisk Thickets
▨ 18. Mulefat Thickets
▨ 53. Singlewhorl Burrow Brush-broom Baccharis Scrub
▨ 57. Disurbed Mulefat Thicket
▨ 58. Black Willow Forest

N

0 50 100 200
Feet

Figure 4
TL-649 Wood-to-Steel Project Biological Technical Report Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

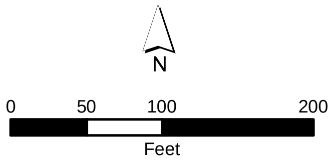
- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ▬ Overland Travel

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround

Vegetation (MCV II)

- ■ 1. Bareground
- ■ 3. California Sagebrush-California buckwheat scrub
- ▨ 10. Annual Brome Grassland
- ■ 11. Purple Needlegrass Grassland
- ■ 13. Coast Prickly Pear Scrub



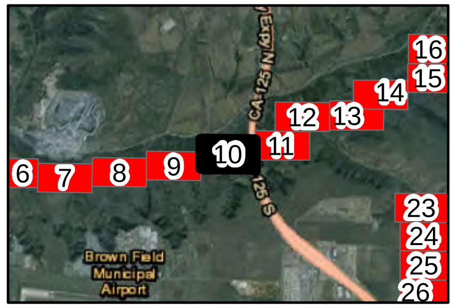


Figure 4

TL-649 Wood-to-Steel Project Biological Technical Report Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

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Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type

- ▨ Proposed String Site

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- ▨ 10. Annual Brome Grassland
- 11. Purple Needlegrass Grassland
- 13. Coast Prickly Pear Scrub

N

0 50 100 200

Feet

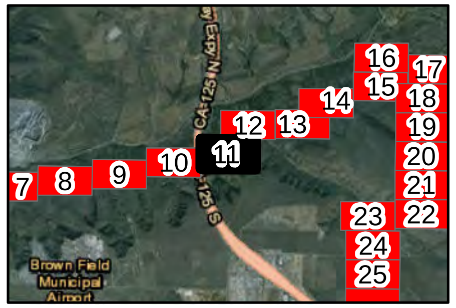

Figure 4

TL-649 Wood-to-Steel Project Biological Technical Report Vegetation Communities Map

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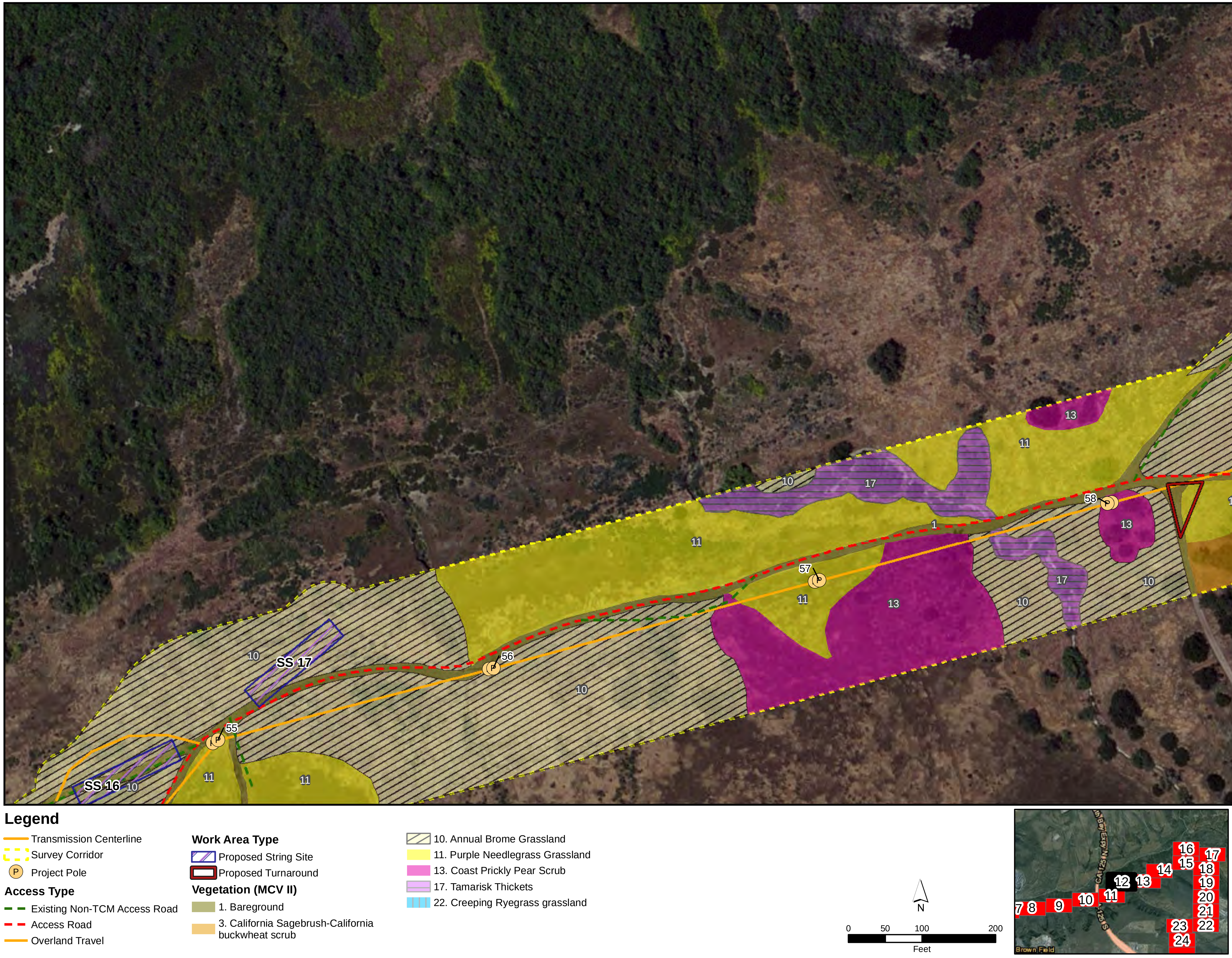

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
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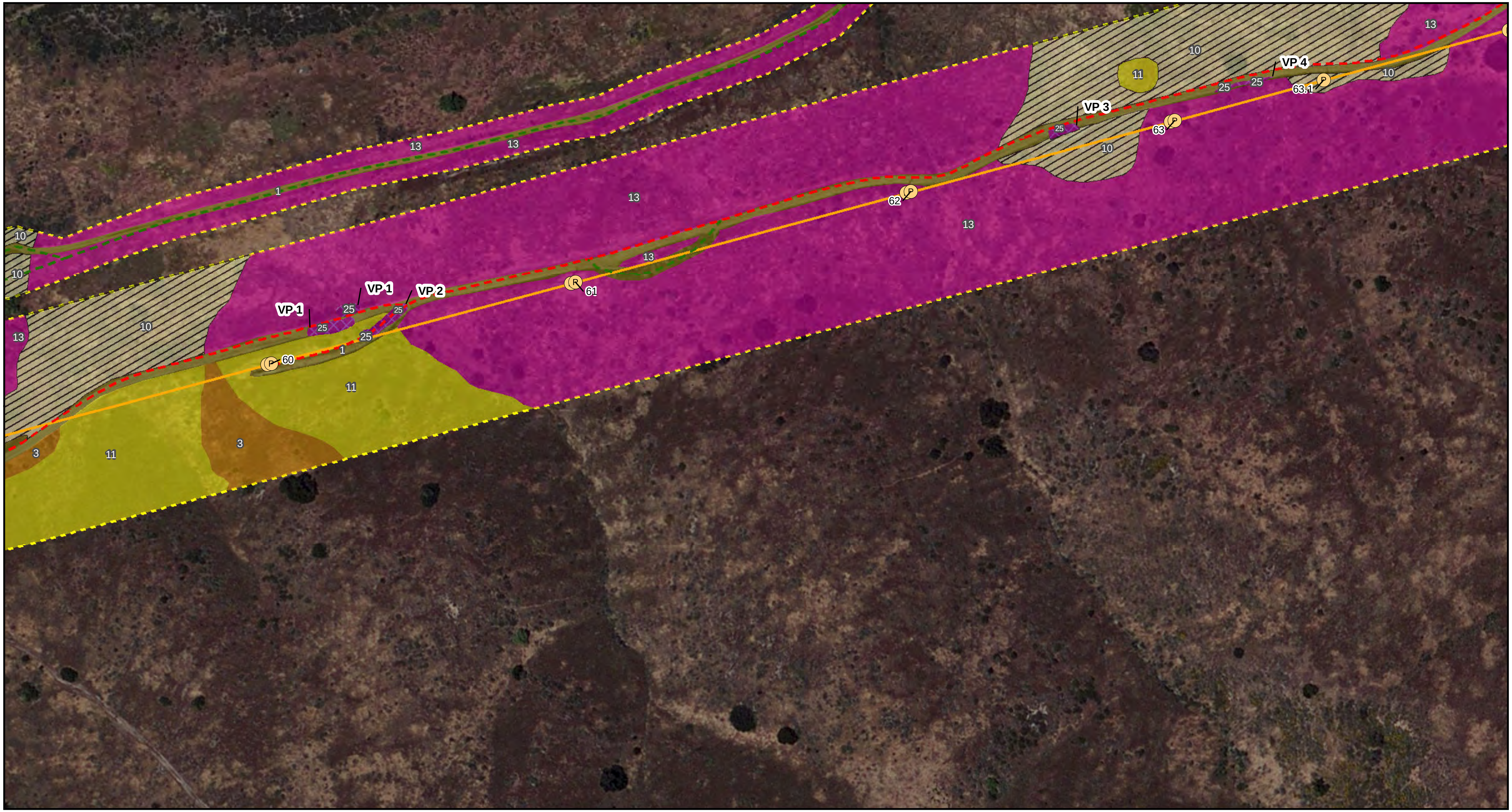

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

- ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- ▨ 10. Annual Brome Grassland
- 11. Purple Needlegrass Grassland
- 13. Coast Prickly Pear Scrub
- ▨ 25. Disturbed San Diego Mesa Claypan Vernal Pools

N

0 50 100 200
Feet

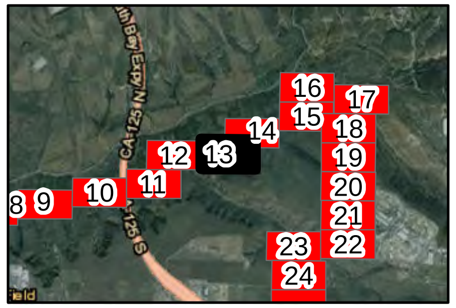

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Transcription Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

- ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- ▨ 10. Annual Brome Grassland
- 11. Purple Needlegrass Grassland
- 13. Coast Prickly Pear Scrub
- ▨ 25. Disturbed San Diego Mesa Claypan Vernal Pools

N

0 50 100 200

Feet

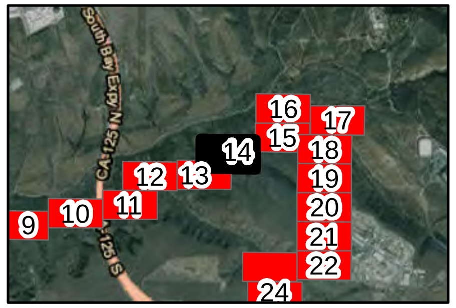

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

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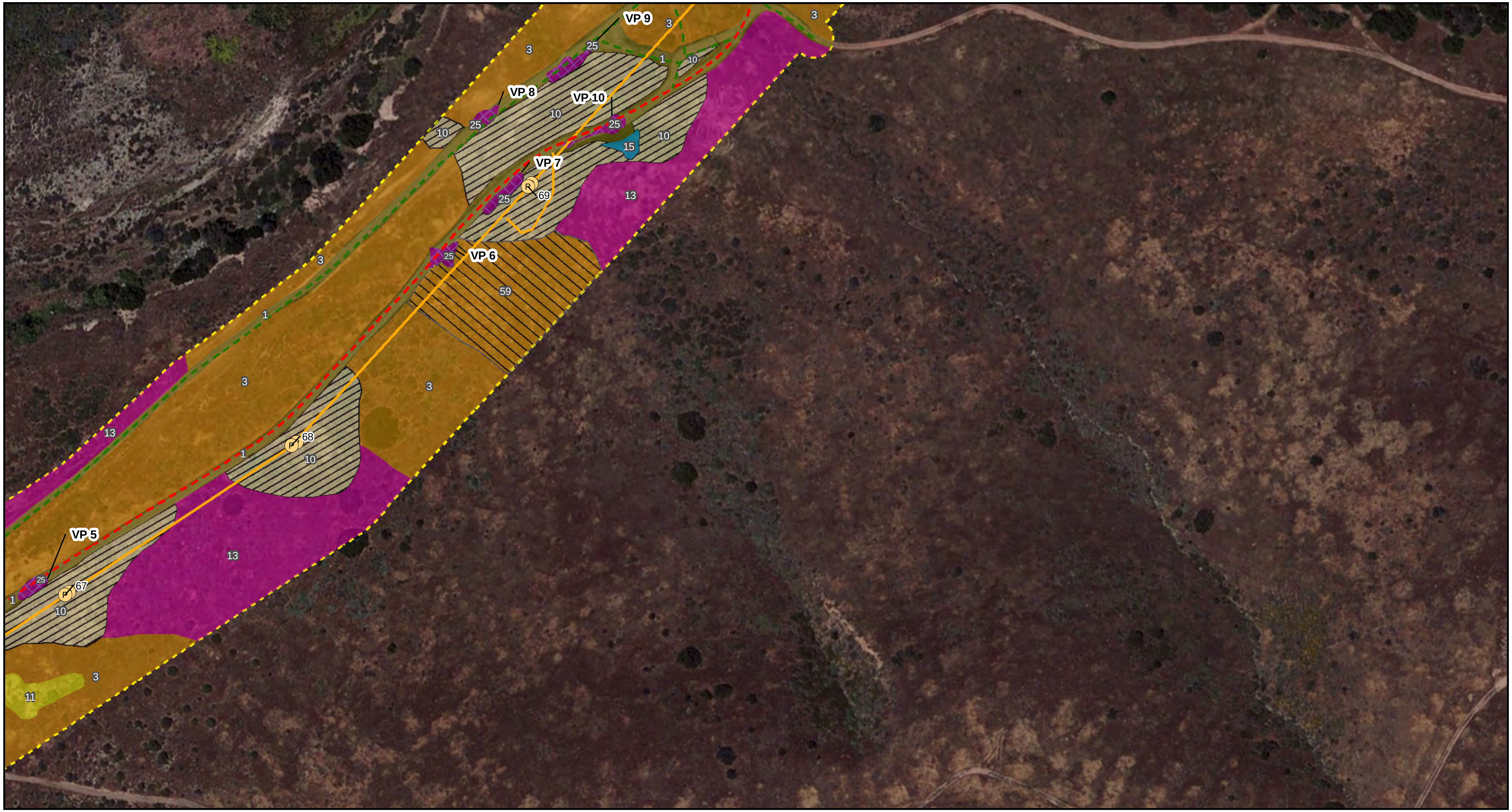

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road
Overland Travel

ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

1. Bareground
3. California Sagebrush-California buckwheat scrub
10. Annual Brome Grassland
11. Purple Needlegrass Grassland
13. Coast Prickly Pear Scrub
15. Pale spike rush marshes
25. Disturbed San Diego Mesa Claypan Vernal Pools
59. Disturbed California Sagebrush-California buckwheat scrub

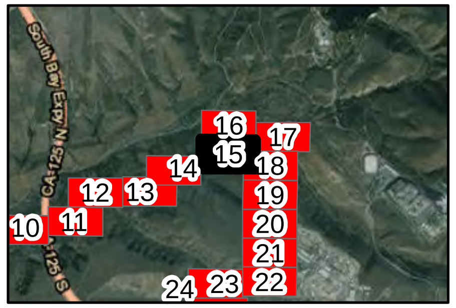

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type

- ▨ Proposed String Site
- 🟪 ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- 13. Coast Prickly Pear Scrub
- 16. Fremont Cottonwood Forest
- 19. Tecate Cypress Stands
- ▨ 25. Disturbed San Diego Mesa Claypan Vernal Pools

N

0 50 100 200
Feet

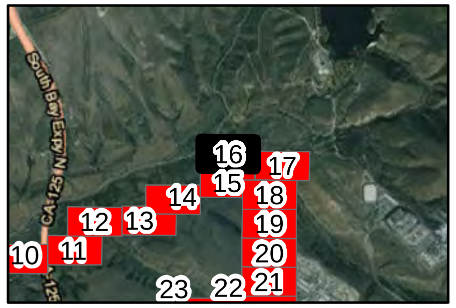

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

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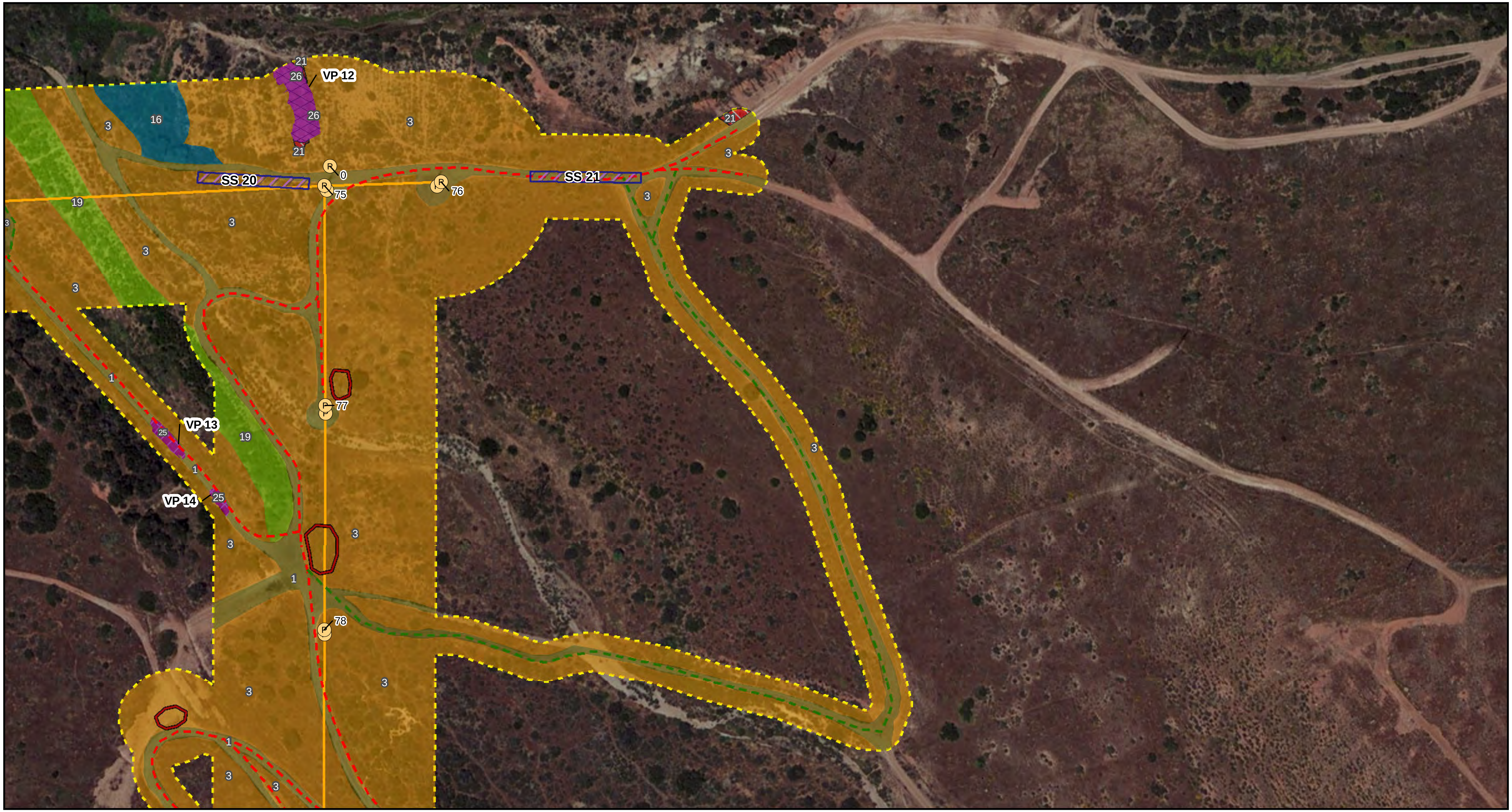


Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type

- ▨ Proposed String Site
- ☐ Proposed Turnaround
- ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- 16. Fremont Cottonwood Forest
- 19. Tecate Cypress Stands
- 21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix
- 25. Disturbed San Diego Mesa Claypan Vernal Pools
- 26. San Diego Mesa Claypan Vernal Pool

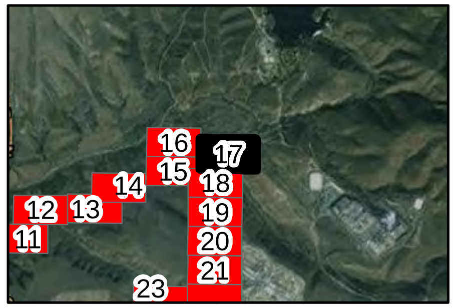


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road
Overland Travel

Vegetation (MCV II)

1. Bareground
3. California Sagebrush-California buckwheat scrub
8. Disturbed
10. Annual Brome Grassland
21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix

N

0 50 100 200
Feet

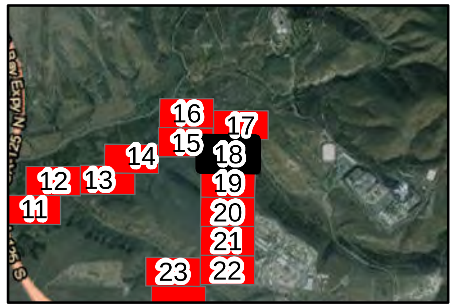
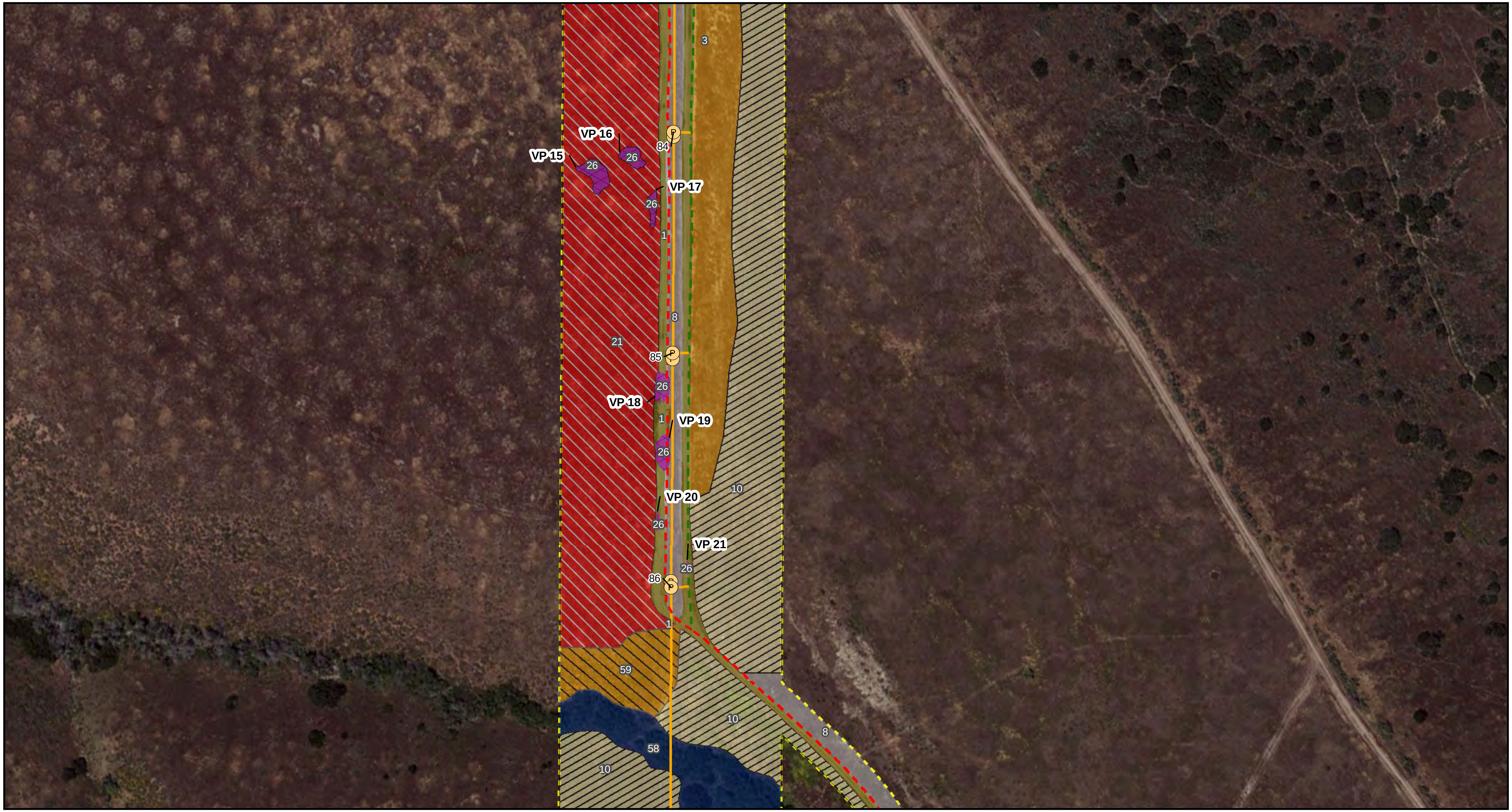


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

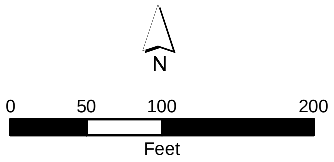
Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

■ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- ■ 1. Bareground
- ■ 3. California Sagebrush-California buckwheat scrub
- ■ 8. Disturbed
- ▨ 10. Annual Brome Grassland
- ▨ 21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix
- ▨ 26. San Diego Mesa Claypan Vernal Pool
- ■ 58. Black Willow Forest
- ▨ 59. Disturbed California Sagebrush-California buckwheat scrub



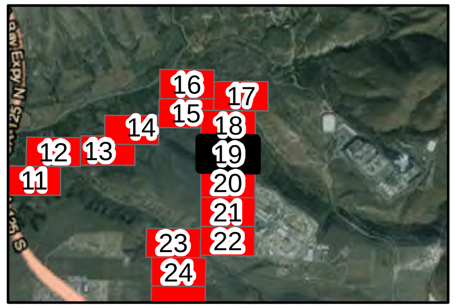


Figure 4

TL-649 Wood-to-Steel Project Biological Technical Report Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

- ■ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- ■ 1. Bareground
- ■ 3. California Sagebrush-California buckwheat scrub
- ■ 8. Disturbed
- ▨ 10. Annual Brome Grassland
- ■ 16. Fremont Cottonwood Forest
- ▨ 21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix
- ▨ 26. San Diego Mesa Claypan Vernal Pool
- ■ 58. Black Willow Forest

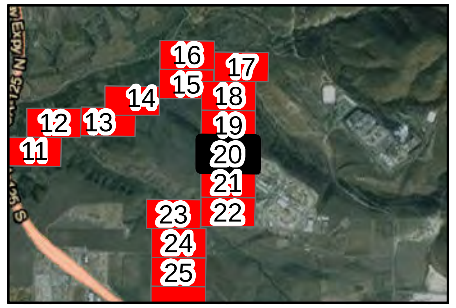
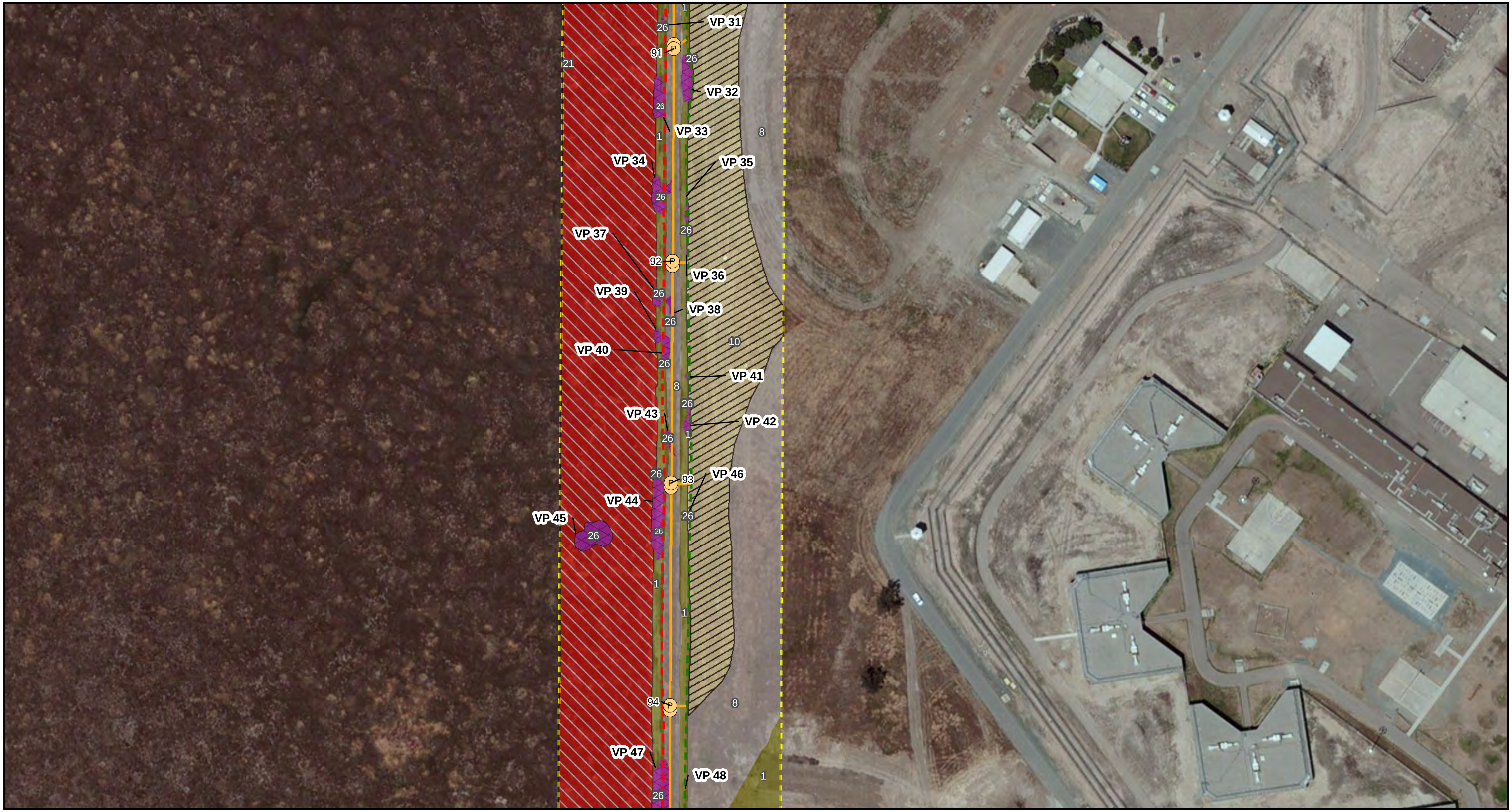


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

━ Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road
━ Overland Travel

▆ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

▆ 1. Bareground
▆ 8. Disturbed
▨ 10. Annual Brome Grassland
▨ 21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix

▨ 26. San Diego Mesa Claypan Vernal Pool

N

0 50 100 200
Feet

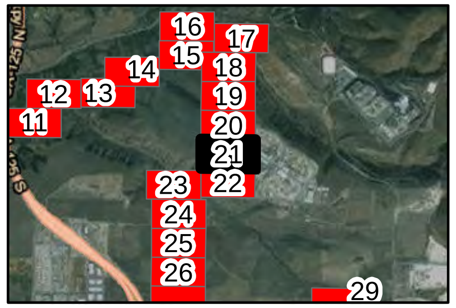


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ▬ Overland Travel

Work Area Type

- ▨ Proposed String Site
- ■ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Vegetation (MCV II)

- ■ 1. Bareground
- ■ 3. California Sagebrush-California buckwheat scrub
- ■ 8. Disturbed
- ▨ 10. Annual Brome Grassland
- ▤ 17. Tamarisk Thickets
- ■ 18. Mulefat Thickets
- ▨ 21. San Diego Mesa Claypan Vernal Pool Native Grassland Mix
- ▨ 26. San Diego Mesa Claypan Vernal Pool

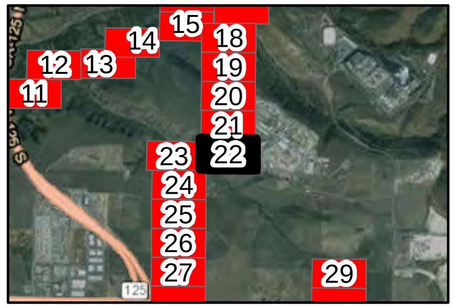


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

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Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type

- ▨ Proposed String Site

Vegetation (MCV II)

- 1. Bareground
- 3. California Sagebrush-California buckwheat scrub
- ▨ 10. Annual Brome Grassland
- 13. Coast Prickly Pear Scrub
- 17. Tamarisk Thickets
- 18. Mulefat Thickets
- 23. Spiny Rush Marsh
- 54. Lemonade Berry Stand

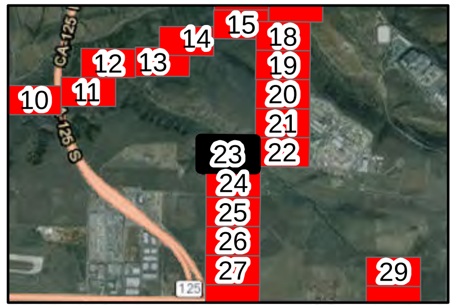


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- (P) Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type

▨ Proposed String Site

Vegetation (MCV II)

▨ 1. Bareground
▨ 8. Disturbed
▨ 10. Annual Brome Grassland

N

0 50 100 200
Feet

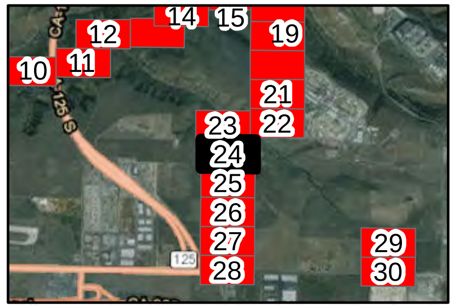


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

🟧 Transcission Centerline

▭ Survey Corridor

Ⓟ Project Pole

Access Type

-- Existing Non-TCM Access Road

-- Access Road

Work Area Type

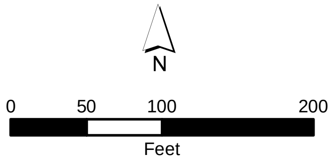
▨ Proposed String Site

Vegetation (MCV II)

▬ 1. Bareground

▭ 8. Disturbed

▨ 10. Annual Brome Grassland



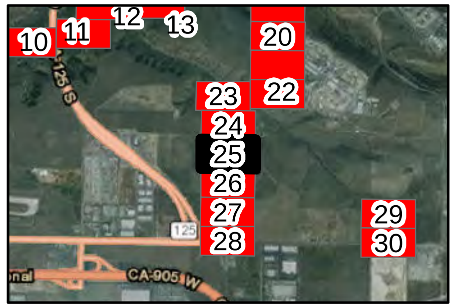


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road

Work Area Type

▨ Proposed String Site

Vegetation (MCV II)

1. Bareground
8. Disturbed
▨ 10. Annual Brome Grassland

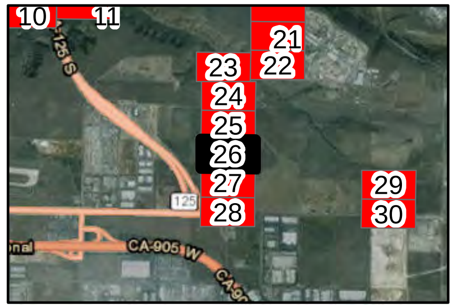


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

Survey Corridor

Access Type

Existing Non-TCM Access Road

Access Road

Work Area Type

▨ Proposed String Site

Vegetation (MCV II)

🟫 1. Bareground

⬜ 8. Disturbed

N

0 50 100 200

Feet

Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Page 27 of 30

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

🟨 Survey Corridor

Access Type

🟩 Existing Non-TCM Access Road

🟥 Access Road

Vegetation (MCV II)

▨ 1. Bareground

▨ 8. Disturbed

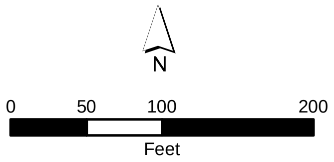


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

▨ Survey Corridor

Work Area Type

▨ Proposed Staging Yard

Vegetation (MCV II)

▨ 1. Bareground

▨ 7. Urban and Developed

▨ 8. Disturbed

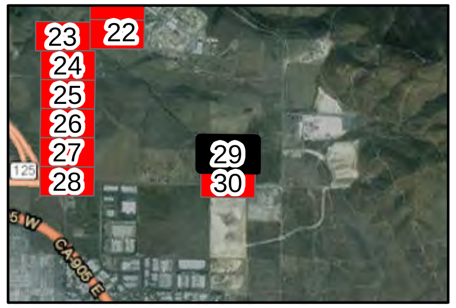


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

▨ Survey Corridor

Work Area Type

▨ Proposed Staging Yard

Vegetation (MCV II)

🟩 1. Bareground

⬜ 7. Urban and Developed

⬜ 8. Disturbed

N

0 50 100 200

Feet

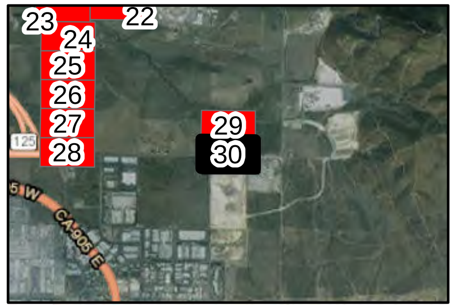


Figure 4

TL-649 Wood-to-Steel Project
Biological Technical Report
Vegetation Communities Map

Name: 20775 BTR Fig 4 Veg Communities 2015.Mxd
Print Date: 6/30/2015, Author: msimmons

Figure 5
TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 1 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- 🟧 Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ▬ Existing Non-TCM Access Road
- ▬ Access Road

Proposed Work Area

- ▨ String Site

- ▭ Turnaround Area

Rare Plant Individuals

- ● Cliff spurge
- ● Coastal cholla
- ● Decumbent goldenbush
- ● Golden-spined cereus
- ■ Munz's sage
- ■ Otay tarplant
- ▲ Palmer's grapplinghook
- ▲ San Diego barrel cactus
- ▲ San Diego bur-sage
- ▲ San Diego county viguiera
- ⬟ San Diego marsh-elder
- ⬟ San Diego sagewort
- ★ Small-flowered morning glory

Rare Plant Populations

- ▭ Cliff spurge
- ▭ Coastal cholla
- ■ Decumbent goldenbush
- ■ Golden-spined cereus
- ▨ San Diego barrel cactus
- ■ San Diego bur-sage
- ■ San Diego bur-sage, San Diego barrel cactus, Cliff spurge
- ■ San Diego county viguiera and Coastal cholla
- ■ San Diego county viguiera and Small-flowered morning glory
- ■ Small-flowered morning glory
- ▨ Small-leaved rose and San Diego bur-sage

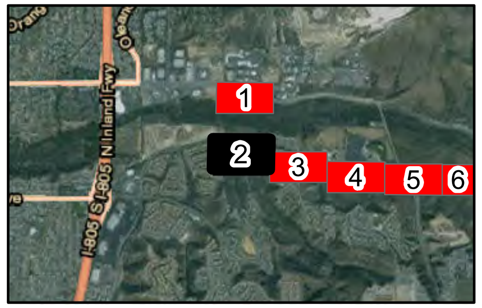


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

━ Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

╍ Existing Non-TCM Access Road
╍ Access Road

Proposed Work Area

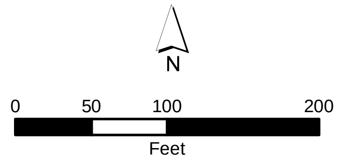
▨ String Site

Rare Plant Individuals

● Decumbent goldenbush
■ Otay tarplant
▲ San Diego bur-sage
▲ San Diego county viguiera
★ Small-flowered morning glory

Rare Plant Populations

▬ Decumbent goldenbush
▬ San Diego county viguiera
▬ San Diego county viguiera and Small-flowered morning glory
▬ Small-flowered morning glory



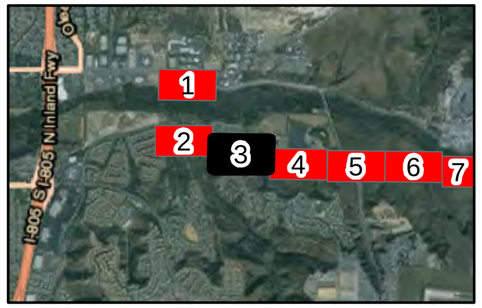


Figure 5
TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Rare Plant Individuals

- ● Decumbent goldenbush
- ▲ San Diego county viguiera

Rare Plant Populations

- 🟩 Decumbent goldenbush
- 🟨 San Diego county viguiera

Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

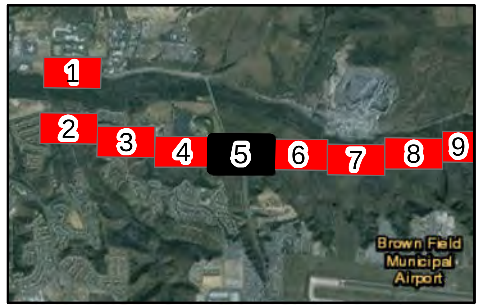


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Proposed Work Area

- ▨ String Site
- Turnaround Area

Rare Plant Individuals

- ● Decumbent goldenbush
- ■ Otay tarplant
- ▲ San Diego county viguiera

Rare Plant Populations

- 🟩 Decumbent goldenbush
- 🟨 San Diego county viguiera

N

0 50 100 200

Feet

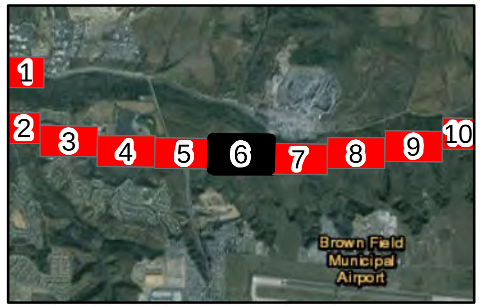
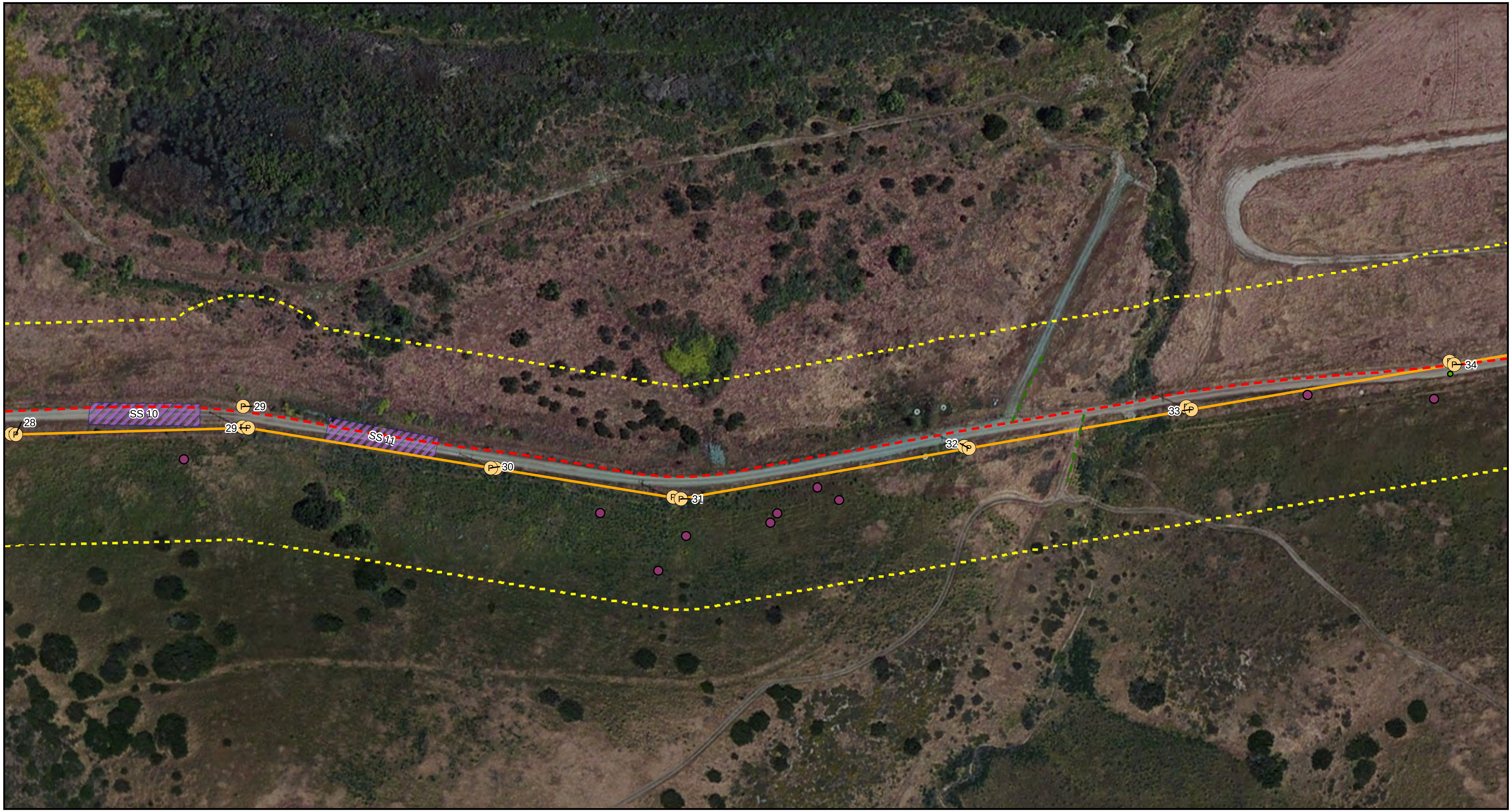


Figure 5

TL-649 Wood-to-Steel Project Biological Technical Report Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP



Legend

Transmission Centerline

Survey Corridor

Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road

Access Road

Proposed Work Area

▨ String Site

Rare Plant Individuals

● Decumbent goldenbush

N

0 50 100 200

Feet

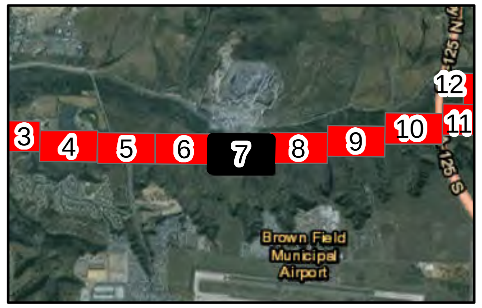


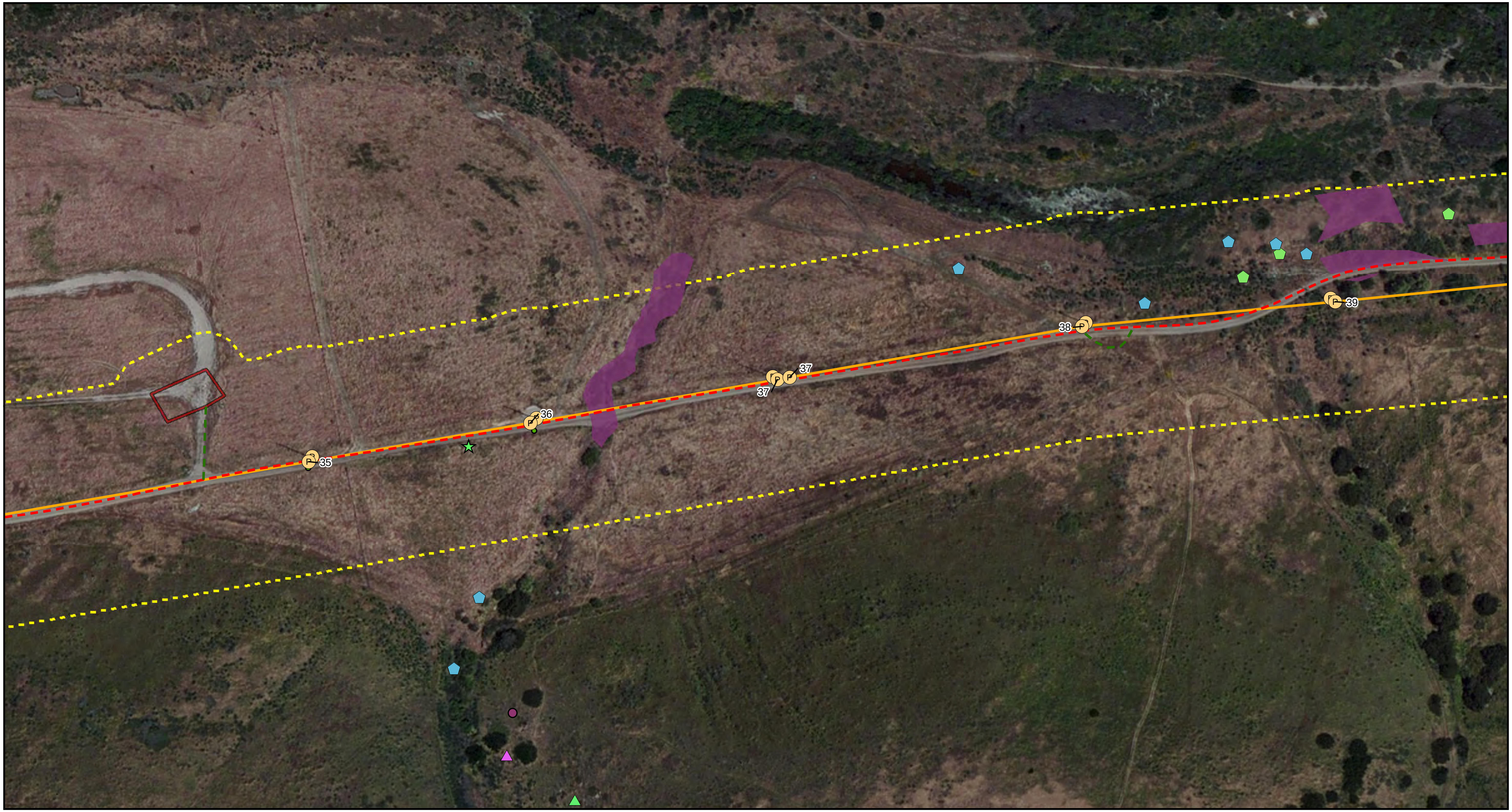
Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 7 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Proposed Work Area

- Turnaround Area

Rare Plant Individuals

- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- ▲ San Diego county viguiera
- ⬟ San Diego marsh-elder
- ⬟ Singlewhorl burrobush
- ★ Southwestern spiny rush

Rare Plant Populations

- ▨ Singlewhorl burrobush

N

0 50 100 200
Feet

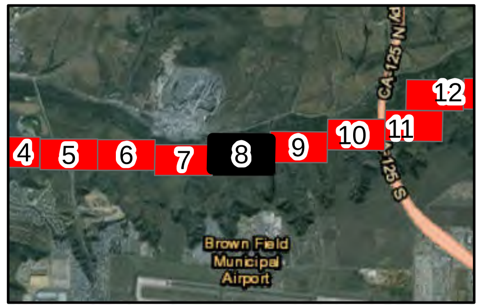


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 8 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Rare Plant Individuals

- ● Coastal cholla
- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- ▲ San Diego county viguiera
- ⬟ San Diego marsh-elder
- ⬟ Singlewhorl burrobush

Rare Plant Populations

- ▨ San Diego barrel cactus
- ■ San Diego marsh-elder
- ■ Singlewhorl burrobush

N

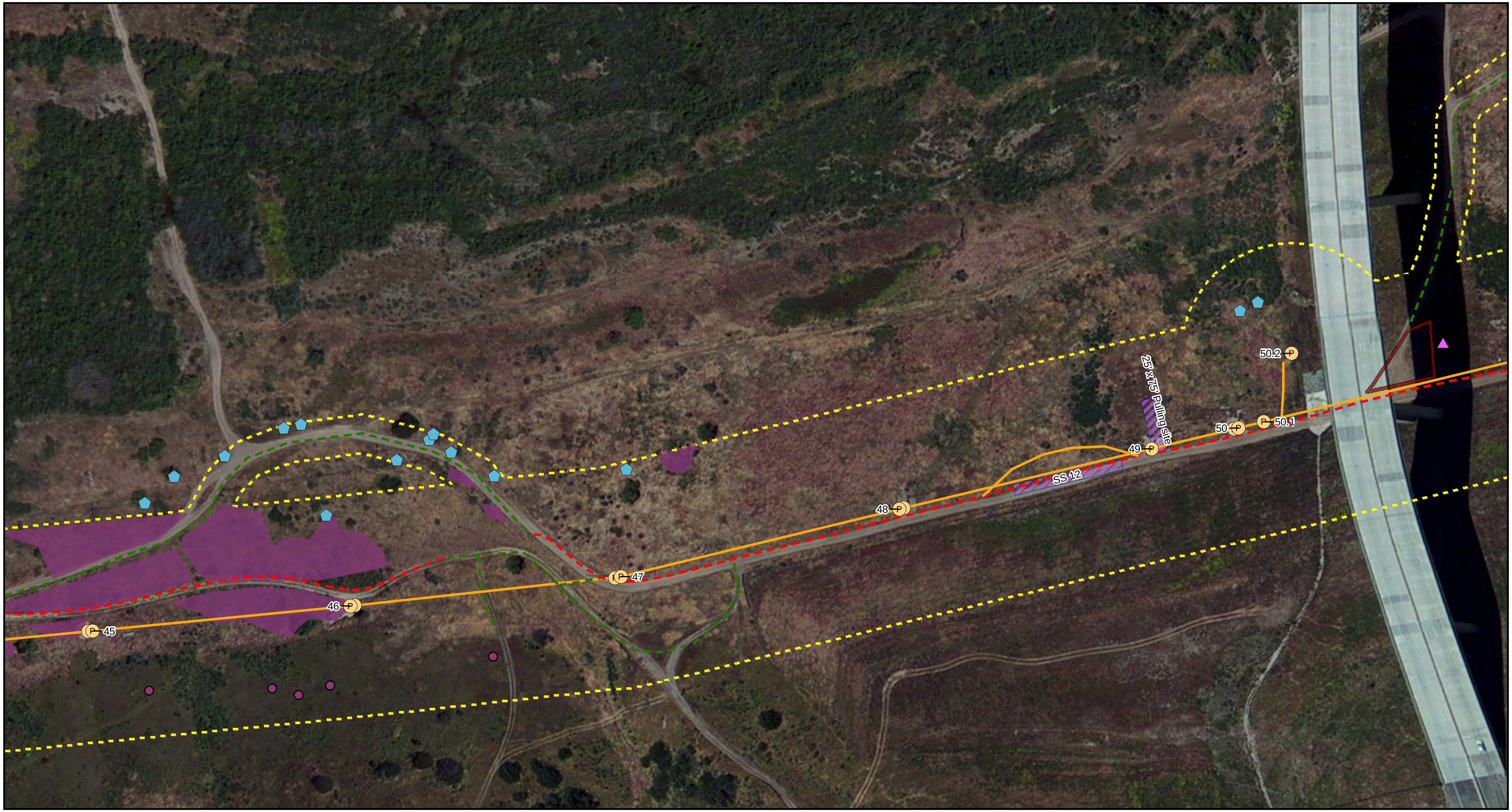
0 50 100 200
Feet

Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP



Legend

- 🟧 Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- 🟩 Existing Non-TCM Access Road
- 🟥 Access Road
- 🟧 Overland Travel

Proposed Work Area

- ▨ String Site
- ▭ Turnaround Area

Rare Plant Individuals

- ● Decumbent goldenbush
- ▲ San Diego county viguiera
- ⬟ Singlewhorl burrobush

Rare Plant Populations

- ■ Singlewhorl burrobush

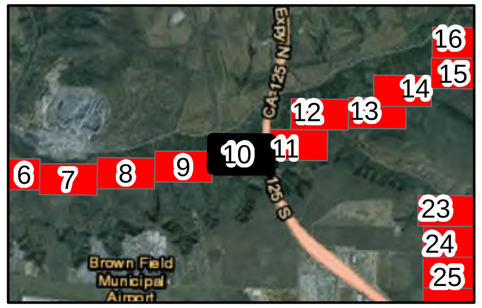


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

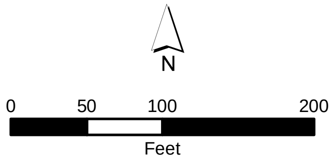
Transcription Centerline
- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type
- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Proposed Work Area
- ▨ String Site

Rare Plant Individuals
- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- ⬟ Singlewhorl burrobush

Rare Plant Populations
- ▬ Singlewhorl burrobush



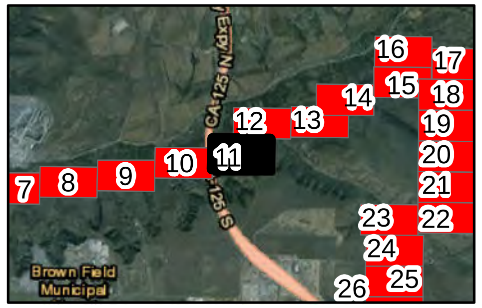


Figure 5

TL-649 Wood-to-Steel Project Biological Technical Report Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- 🟧 Transmission Centerline
- ▨ Survey Corridor
- Ⓟ Project Pole

Access Type

- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ━ Overland Travel

Proposed Work Area

- ▨ String Site
- ▭ Turnaround Area

Rare Plant Individuals

- ● Ashy spike moss
- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- ⬟ San Diego marsh-elder
- ⬟ Singlewhorl burrobush

Rare Plant Populations

- ▨ San Diego barrel cactus
- ■ San Diego marsh-elder
- ■ Singlewhorl burrobush

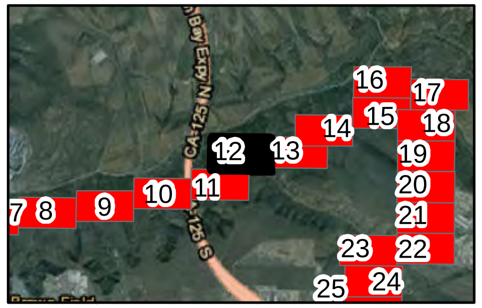


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Rare Plant Individuals

- ● Decumbent goldenbush
- 🟩 Munz's sage
- ▲ San Diego barrel cactus
- ⬟ San Diego marsh-elder
- ⬟ Singlewhorl burrobush

Rare Plant Populations

- Munz's sage
- Singlewhorl burrobush

N

0 50 100 200
Feet

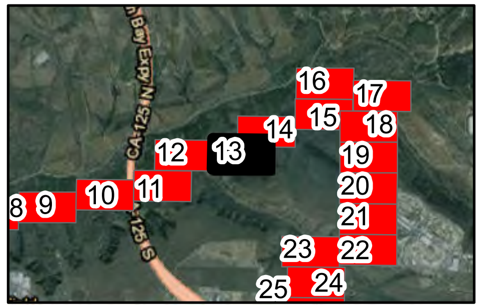


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- ━ Transmission Centerline
- ⬚ Survey Corridor
- Ⓟ Project Pole

Access Type

- ╍ Existing Non-TCM Access Road
- ╍ Access Road

Rare Plant Individuals

- ● Decumbent goldenbush
- 🟩 Munz's sage
- ▲ San Diego barrel cactus
- ▲ San Diego county viguiera
- ★ Southwestern spiny rush
- △ Variegated dudleya

Rare Plant Populations

- 🟩 Decumbent goldenbush
- 🟧 Munz's sage

Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 14 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

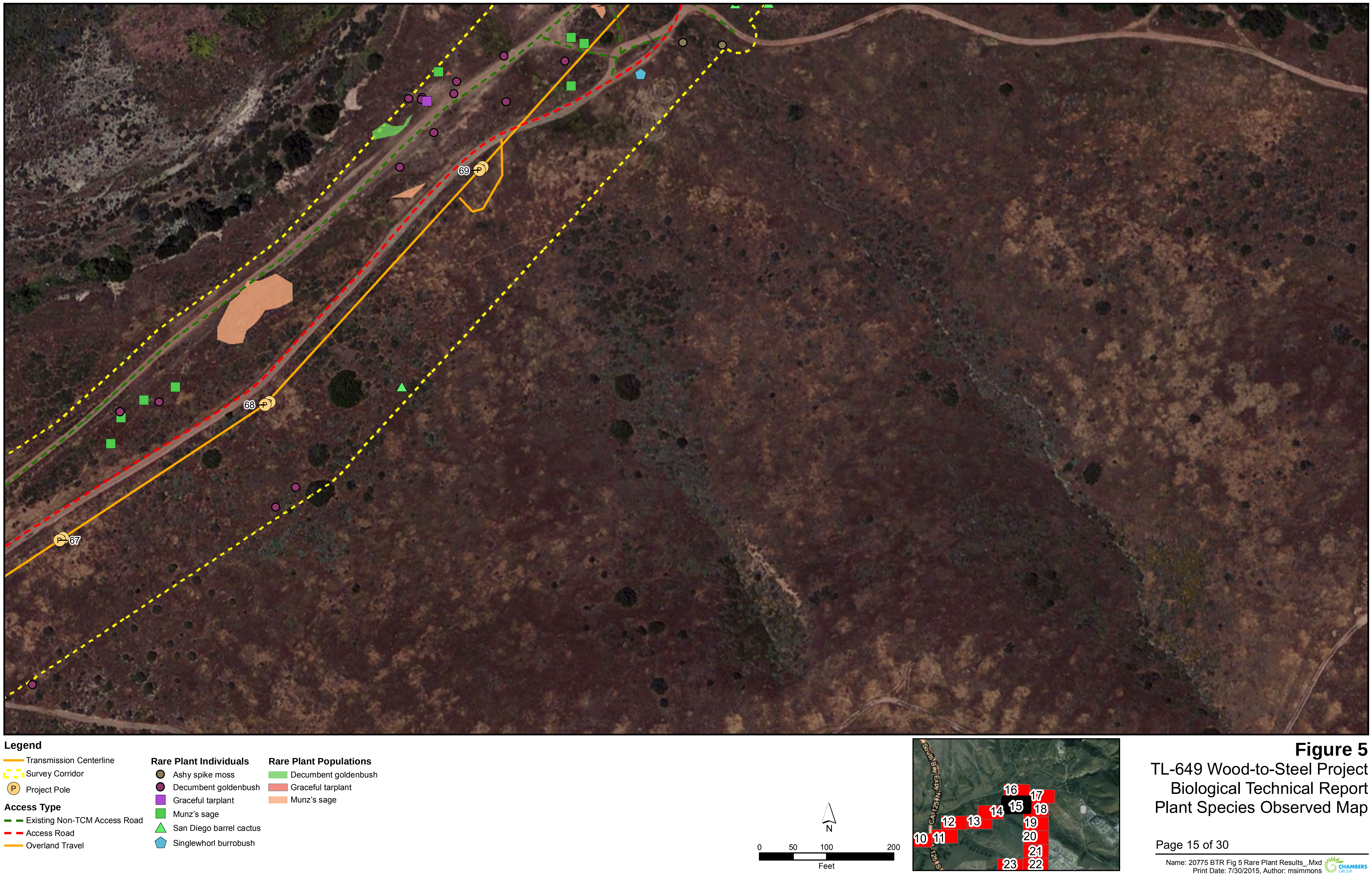


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

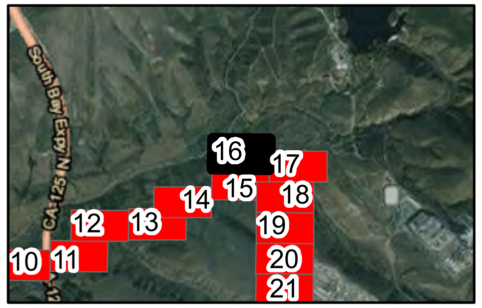
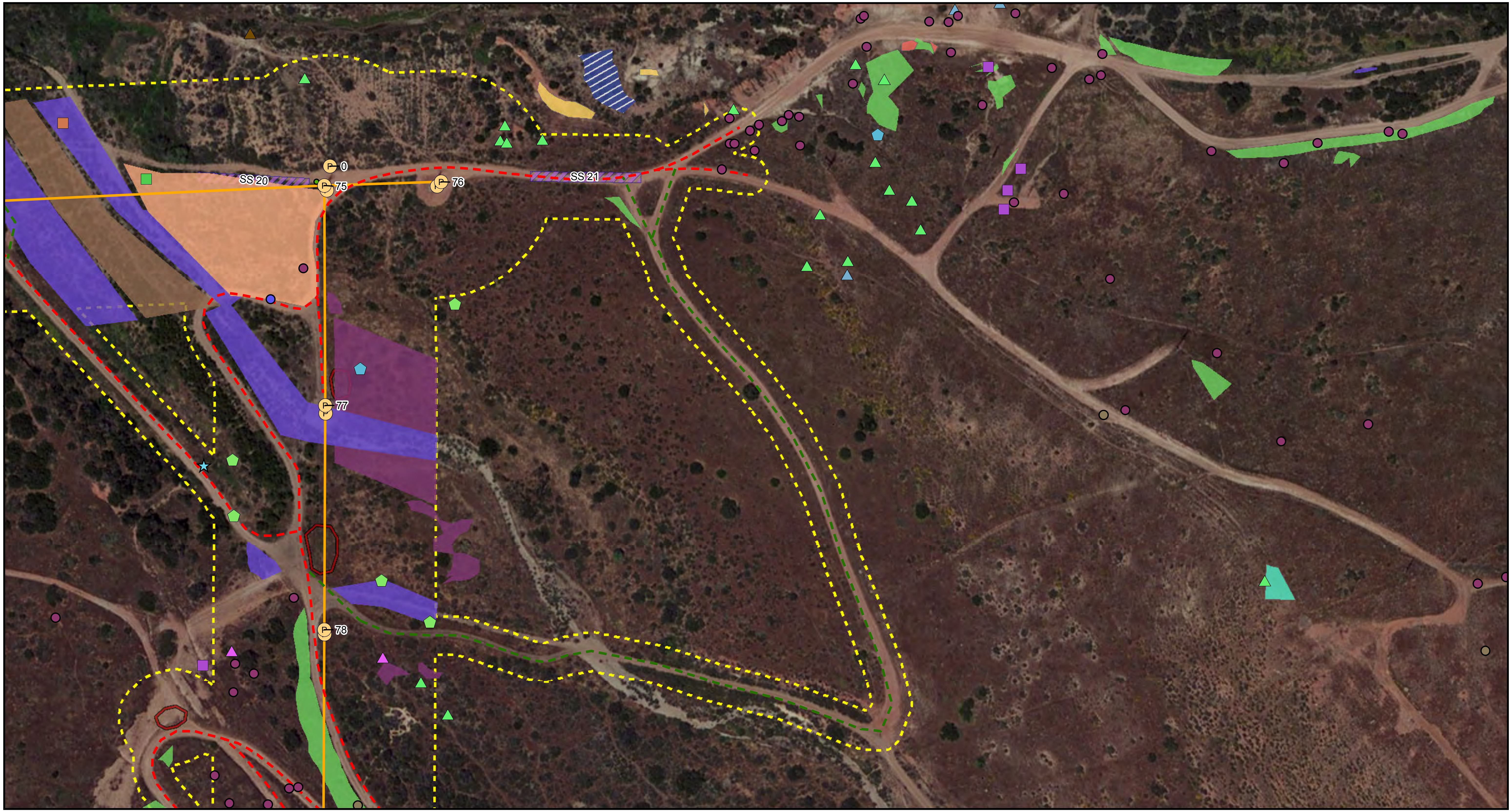


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

🟧 Transmission Centerline

▭ Survey Corridor

Ⓟ Project Pole

Access Type

-- Existing Non-TCM Access Road

-- Access Road

Proposed Work Area

▨ String Site

▭ Turnaround Area

Rare Plant Individuals

● Ashy spike moss

● Decumbent goldenbush

■ Graceful tarplant

■ Munz's sage

■ Otay Mountain ceanothus

● Otay manzanita

▲ Palmer's grapplinghook

▲ San Diego barrel cactus

▲ San Diego county viguiera

⬟ San Diego marsh-elder

⬟ Singlewhorl burrobush

☆ Tecate cypress

▲ Harpagonella palmeri

Rare Plant Populations

🟩 Decumbent goldenbush

🟥 Graceful tarplant

🟧 Munz's sage

🟨 Palmer's grapplinghook

▨ San Diego barrel cactus

🟪 San Diego marsh-elder

🟪 Singlewhorl burrobush

🟫 Tecate cypress

🟦 Variegated dudleya

N

0 50 100 200

Feet

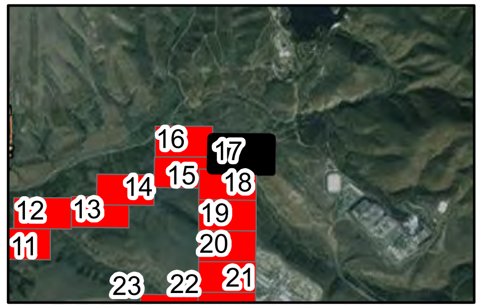


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

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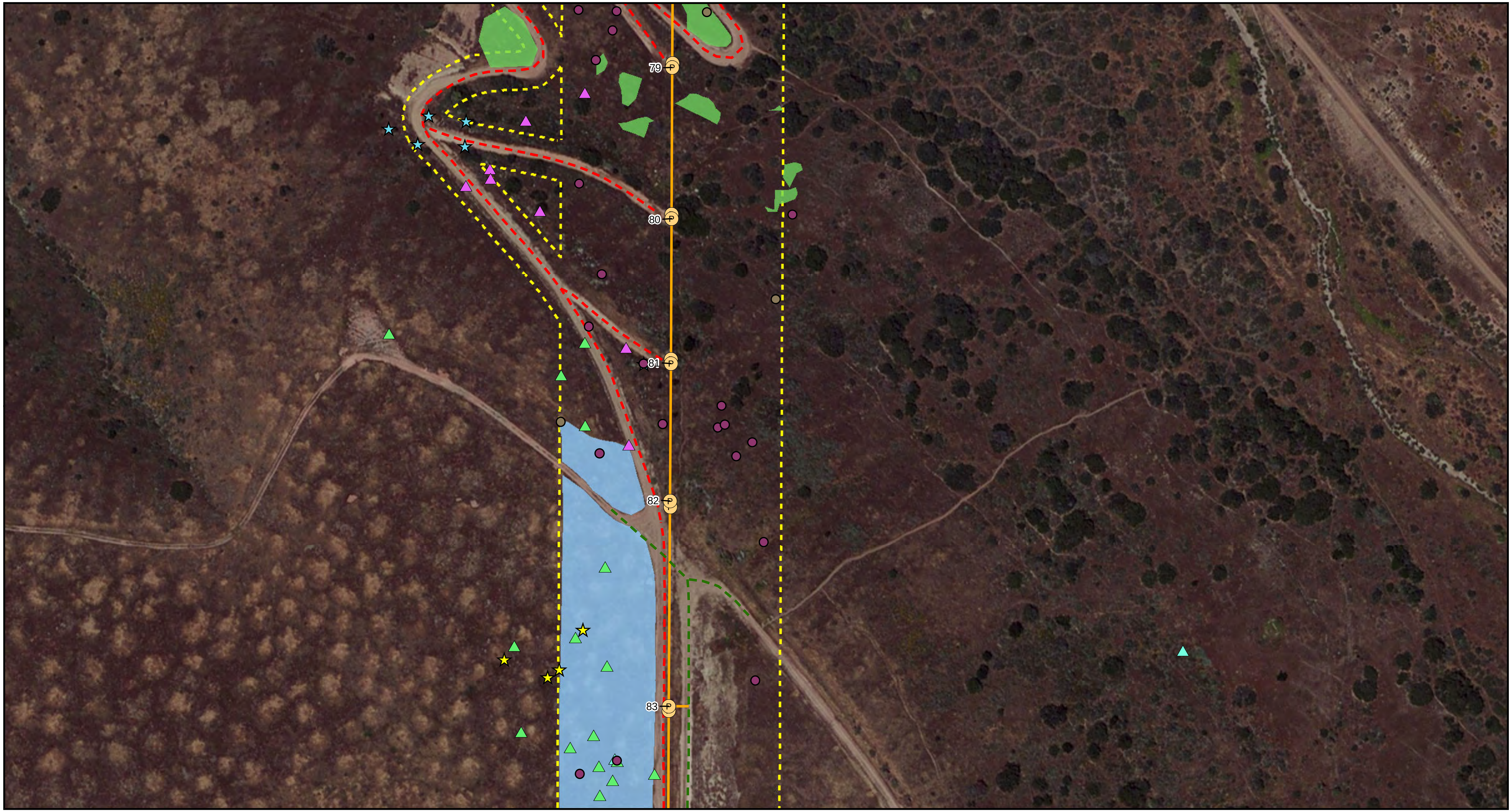


Legend

━ Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

╍ Existing Non-TCM Access Road
╍ Access Road
━ Overland Travel

Rare Plant Individuals

● Ashy spike moss
● Decumbent goldenbush
▲ San Diego barrel cactus
★ San Diego button celery
▲ San Diego county viguiera
★ Tecate cypress
△ Variegated dudleya
△ Variegated dudleya

Rare Plant Populations

🟦 Ashy spike moss
🟩 Decumbent goldenbush

N

0 50 100 200
Feet

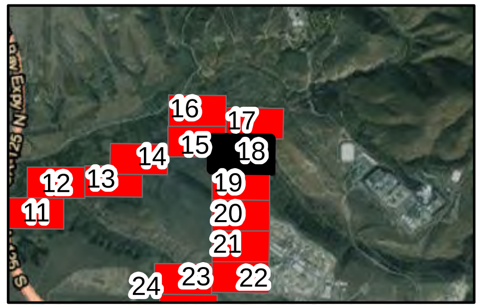
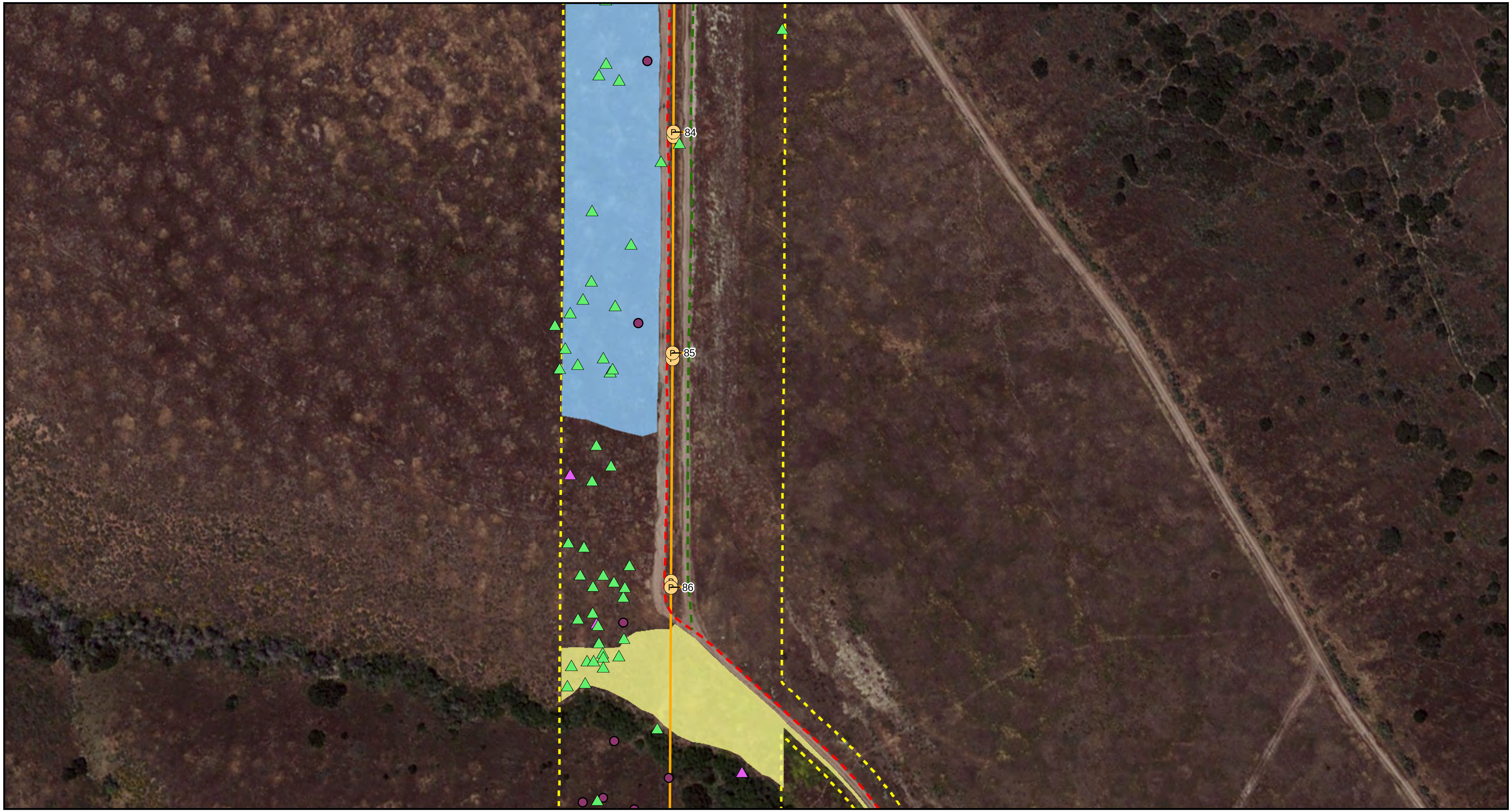


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

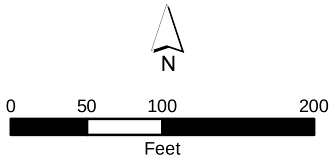
- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Rare Plant Individuals

- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- ▲ San Diego county viguiera

Rare Plant Populations

- ▨ Ashy spike moss
- ▨ San Diego county viguiera



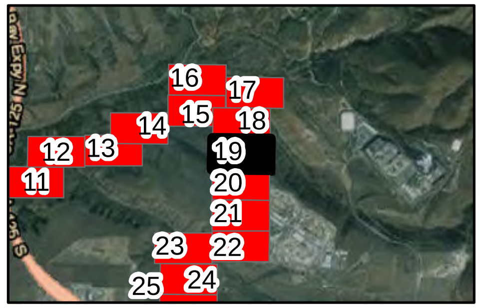


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

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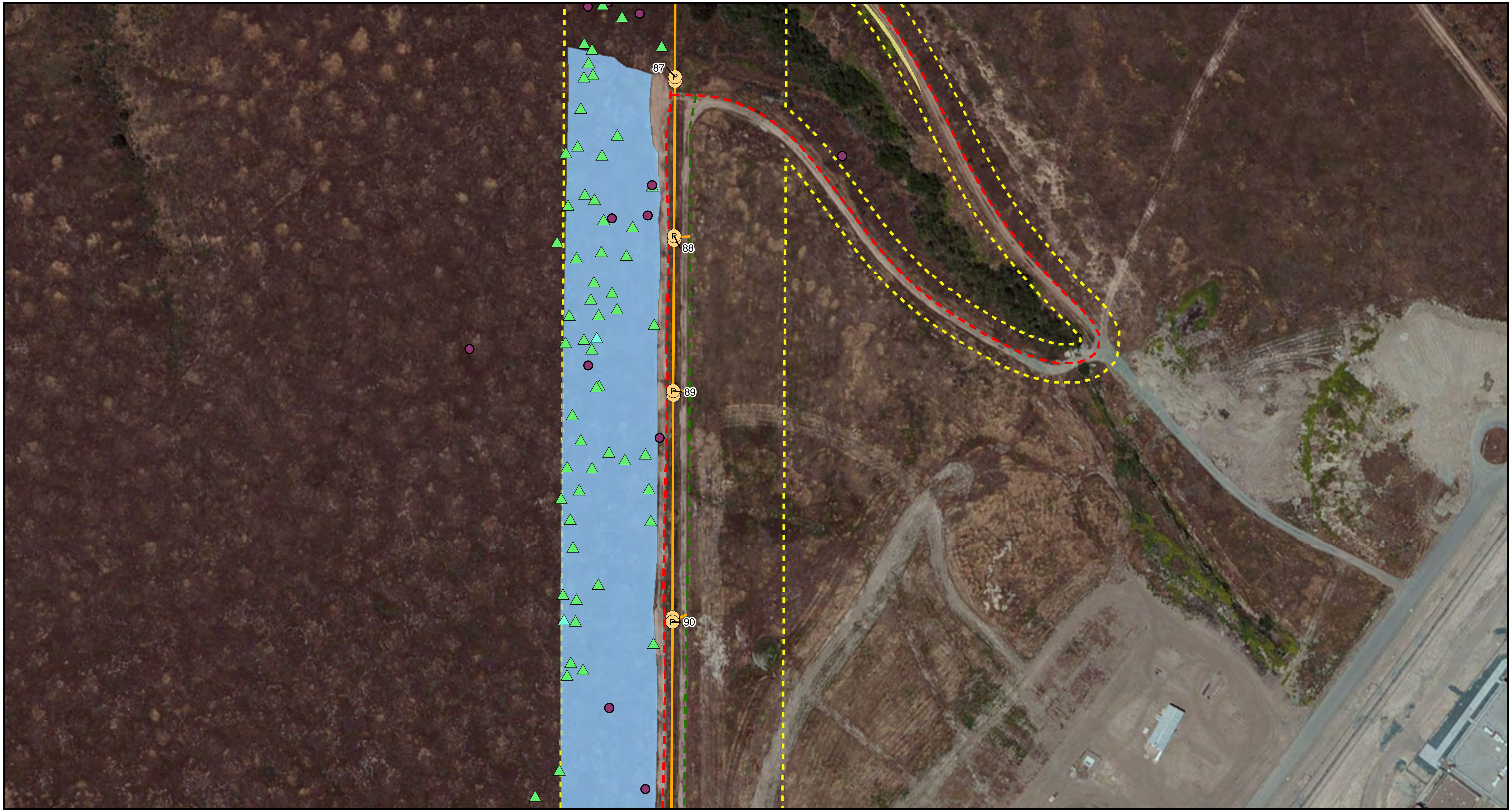
Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Rare Plant Individuals

- ● Decumbent goldenbush
- ▲ San Diego barrel cactus
- △ Variegated dudleya

Rare Plant Populations

- ▨ Ashy spike moss
- ▨ San Diego county viguiera

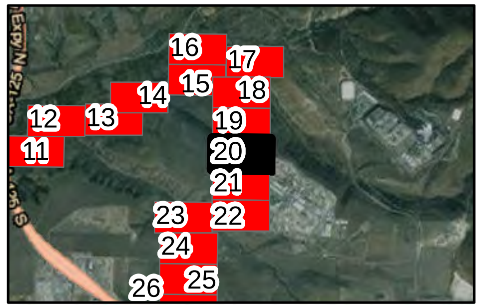
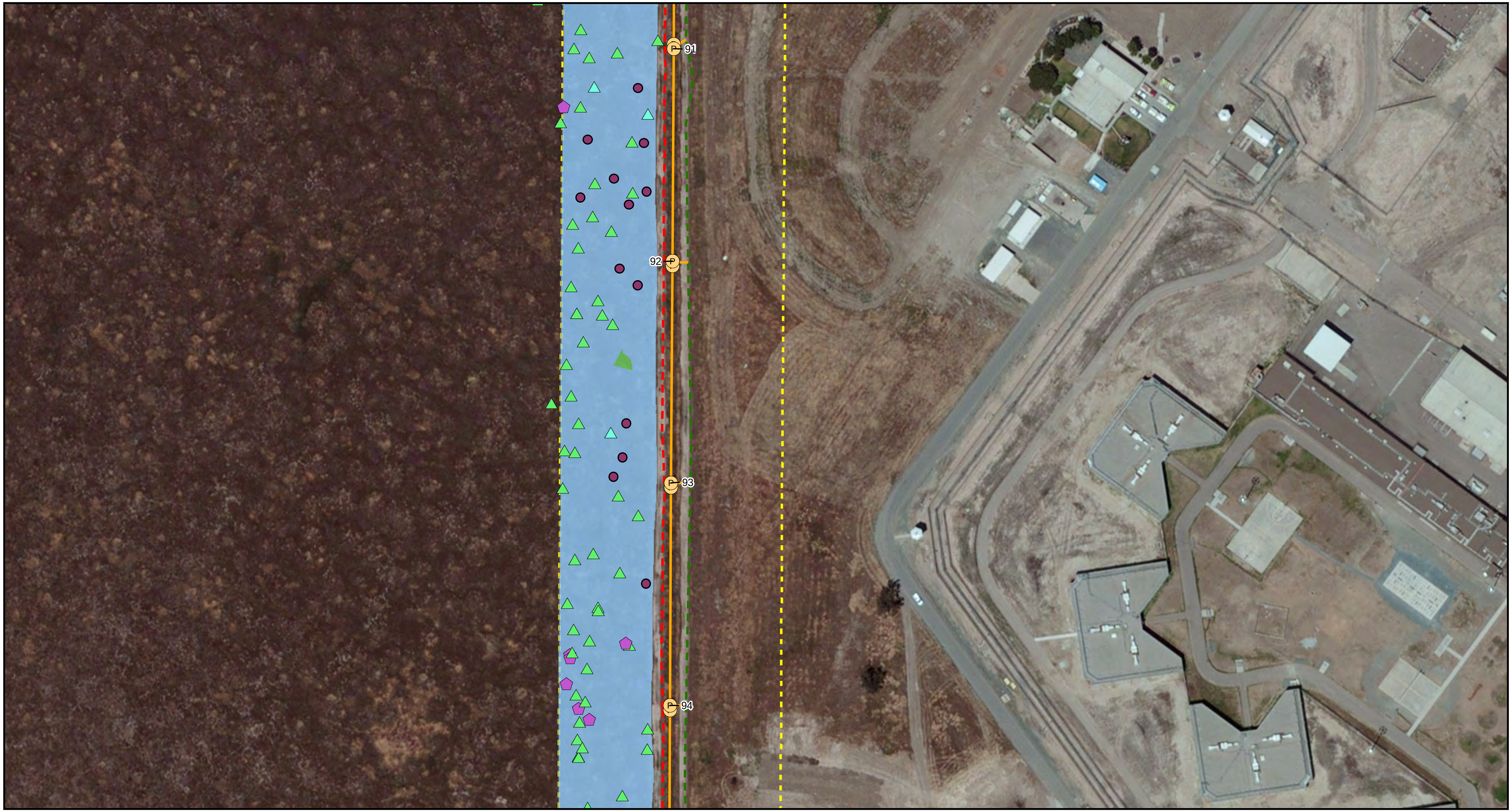


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Rare Plant Individuals

- ● Decumbent goldenbush
- △ San Diego barrel cactus
- ⬟ San Diego goldenstar
- △ Variegated dudleya

Rare Plant Populations

- Ashy spike moss
- Decumbent goldenbush
- San Diego goldenstar

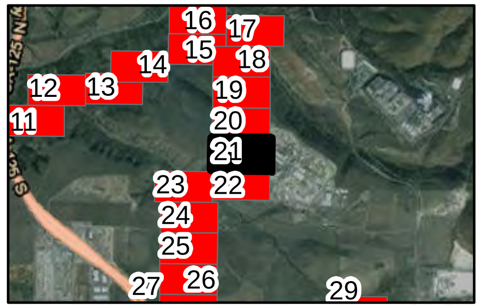
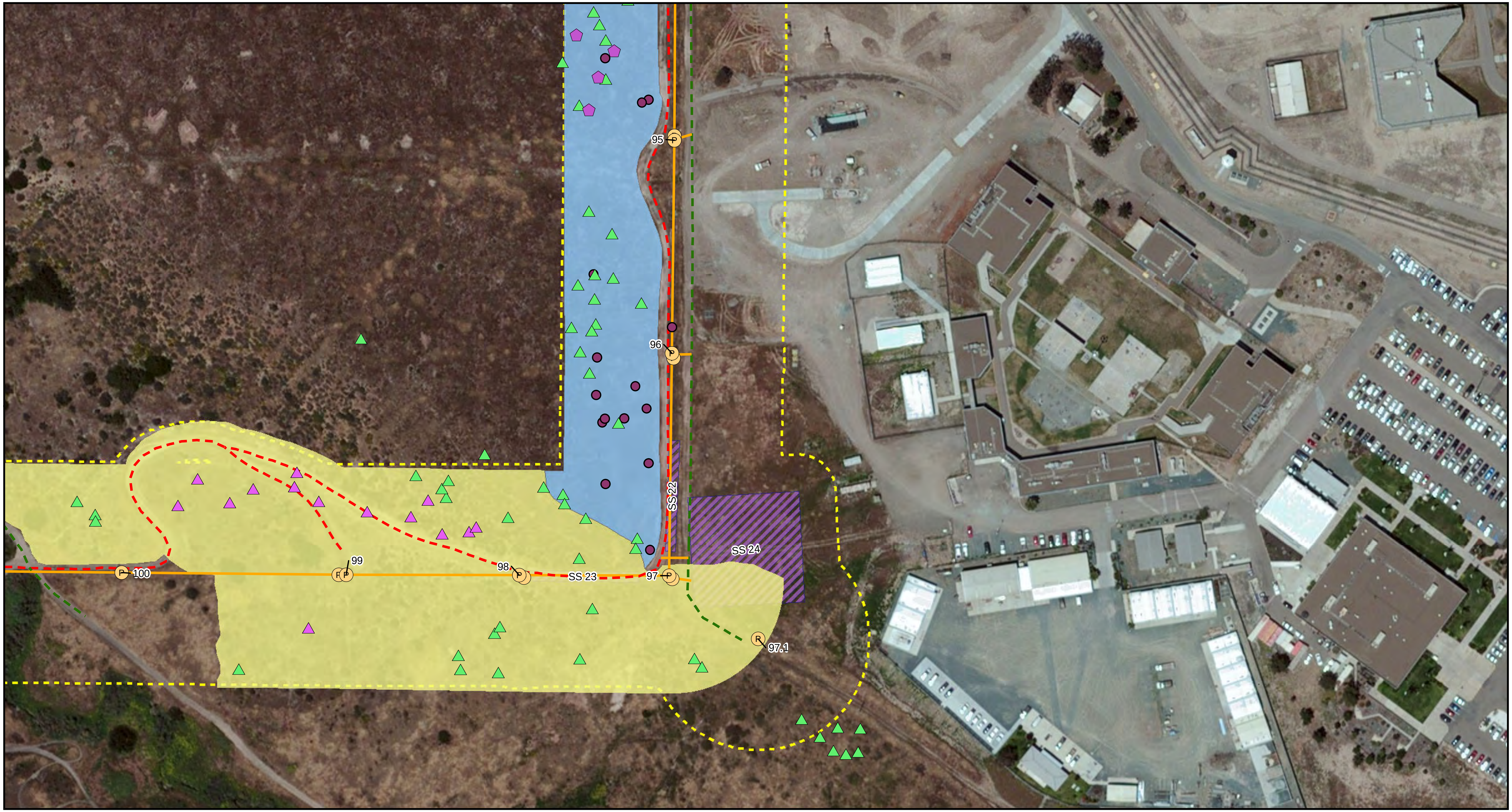


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Proposed Work Area

- ▨ String Site

Rare Plant Individuals

- ● Decumbent goldenbush
- △ San Diego barrel cactus
- △ San Diego county viguiera
- ⬟ San Diego goldenstar

Rare Plant Populations

- 🟦 Ashy spike moss
- 🟨 San Diego county viguiera
- 🟪 San Diego goldenstar

N

0 50 100 200

Feet

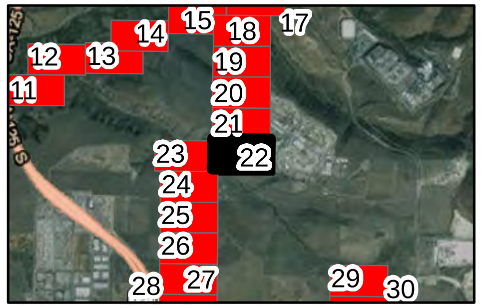


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Proposed Work Area

- ▨ String Site

Rare Plant Individuals

- ● Decumbent goldenbush
- ■ Otay tarplant
- ▲ San Diego barrel cactus
- ★ Small-flowered morning glory
- △ Variegated dudleya

Rare Plant Populations

- California adolphia, San Diego bur-sage, San Diego marsh-elder
- San Diego county viguiera

N

0 50 100 200
Feet

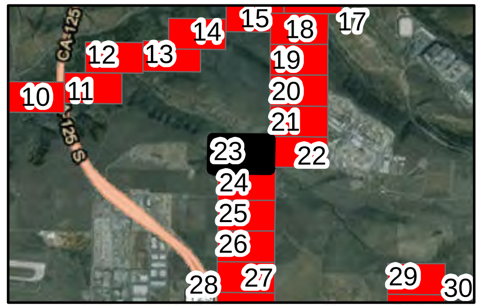


Figure 5
TL-649 Wood-to-Steel Project Biological Technical Report Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▬ Overland Travel

Proposed Work Area

- ▨ String Site

Rare Plant Individuals

- ● Decumbent goldenbush

Rare Plant Populations

- 🟩 Decumbent goldenbush

N

0 50 100 200
Feet

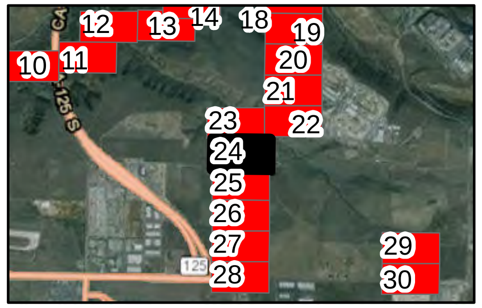
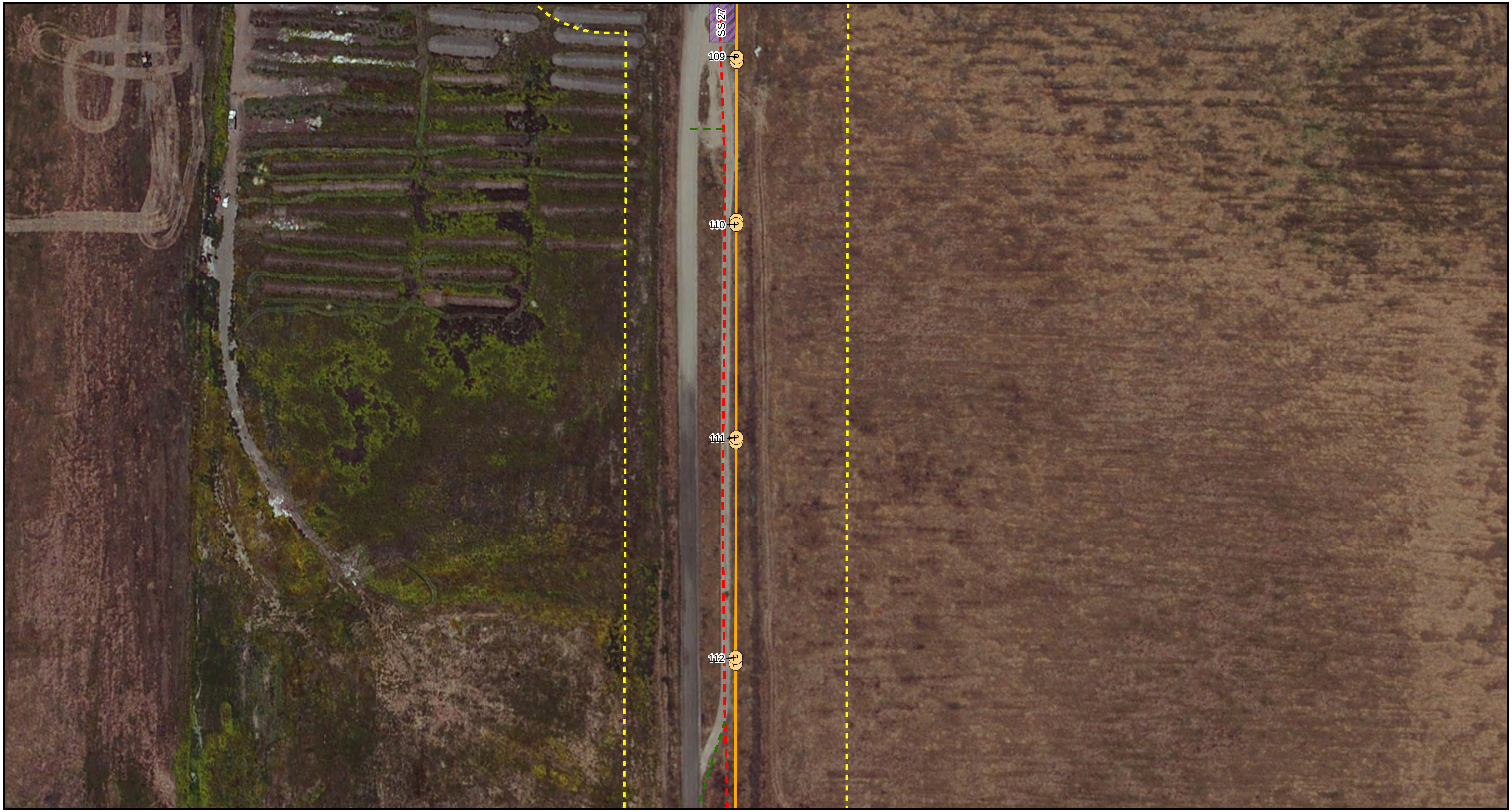


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

🟧 Transmission Centerline

▭ Survey Corridor

Ⓟ Project Pole

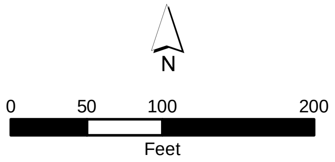
Access Type

-- Existing Non-TCM Access Road

-- Access Road

Proposed Work Area

▨ String Site



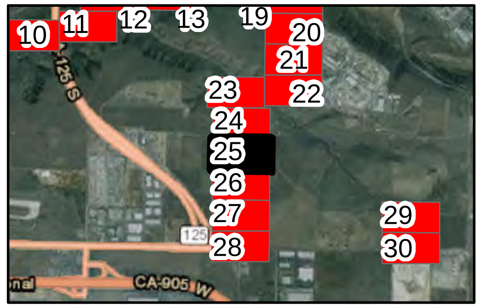


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

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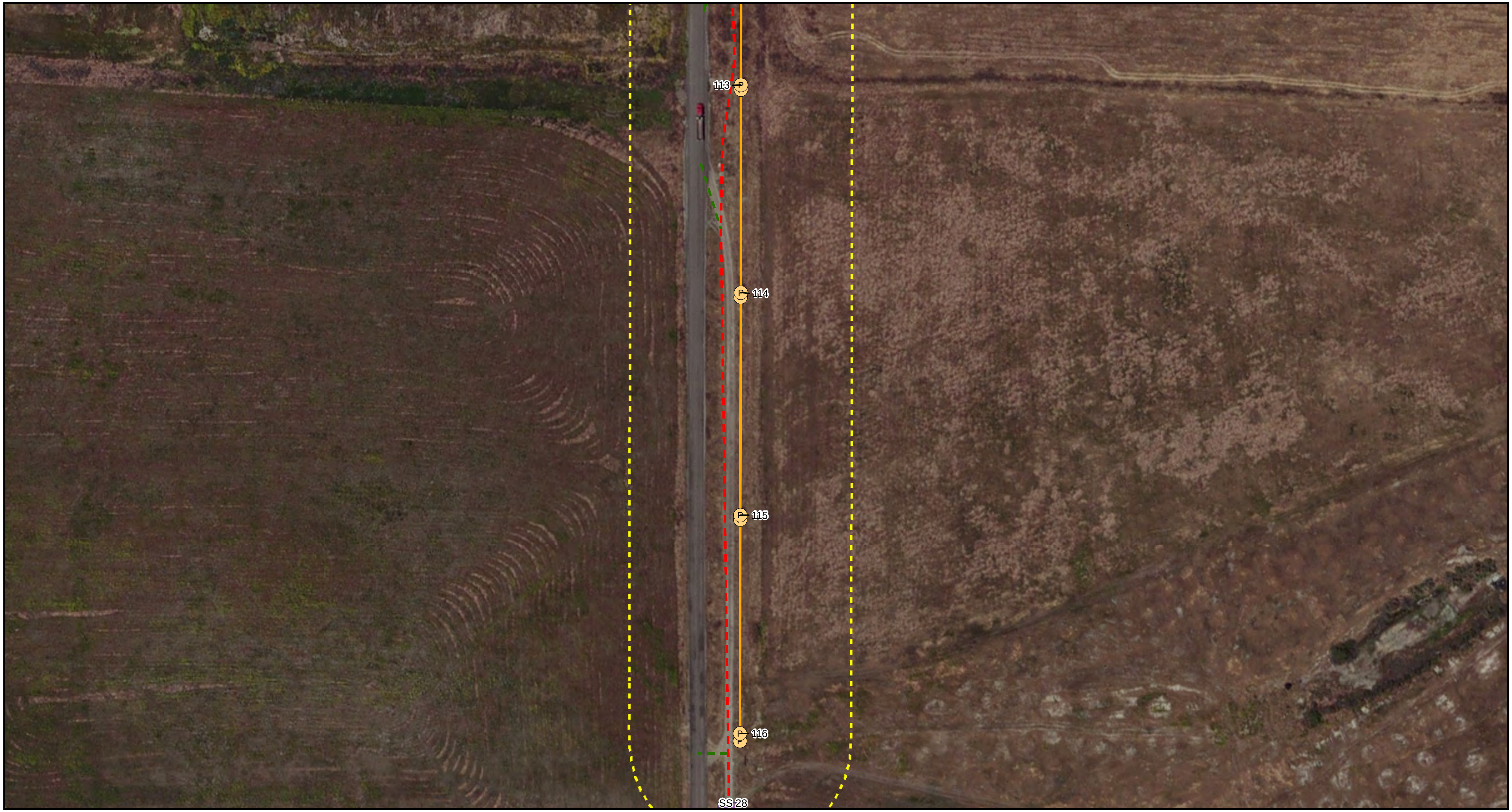


Legend

▬ Transcription Centerline

▭ Survey Corridor

Ⓟ Project Pole

Access Type

‒ ‒ Existing Non-TCM Access Road

‒ ‒ Access Road

Proposed Work Area

▨ String Site

Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

▨ Survey Corridor

Access Type

▬ ▬ Existing Non-TCM Access Road

▬ ▬ Access Road

Proposed Work Area

▨ String Site

Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟨 Survey Corridor

Access Type

🟩 Existing Non-TCM Access Road

🟥 Access Road

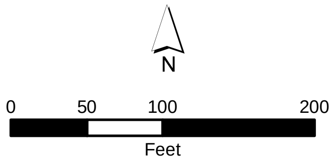


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 28 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟨 Survey Corridor

Proposed Work Area

▨ Staging Yard

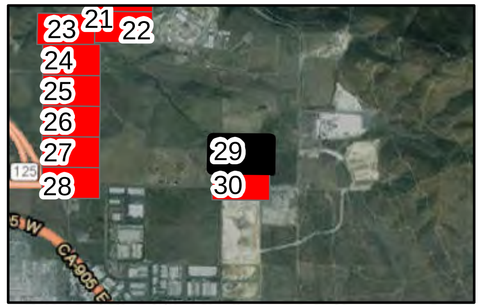


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Page 29 of 30

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

▨ Survey Corridor

Proposed Work Area

▨ Staging Yard

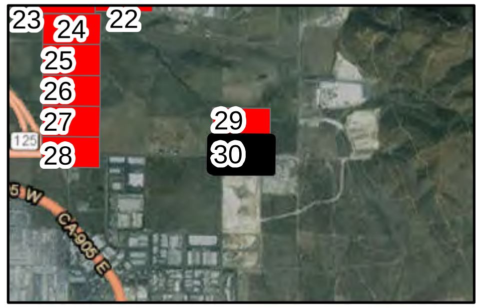


Figure 5

TL-649 Wood-to-Steel Project
Biological Technical Report
Plant Species Observed Map

Name: 20775 BTR Fig 5 Rare Plant Results_.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

▭ Survey Corridor

Work Area Type Proposed

▨ Staging Yard

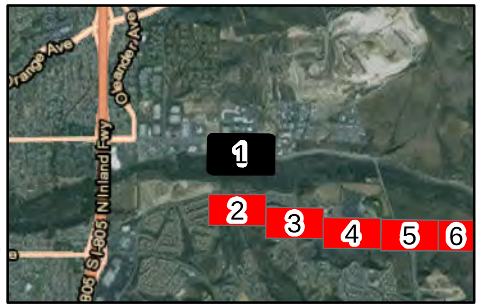
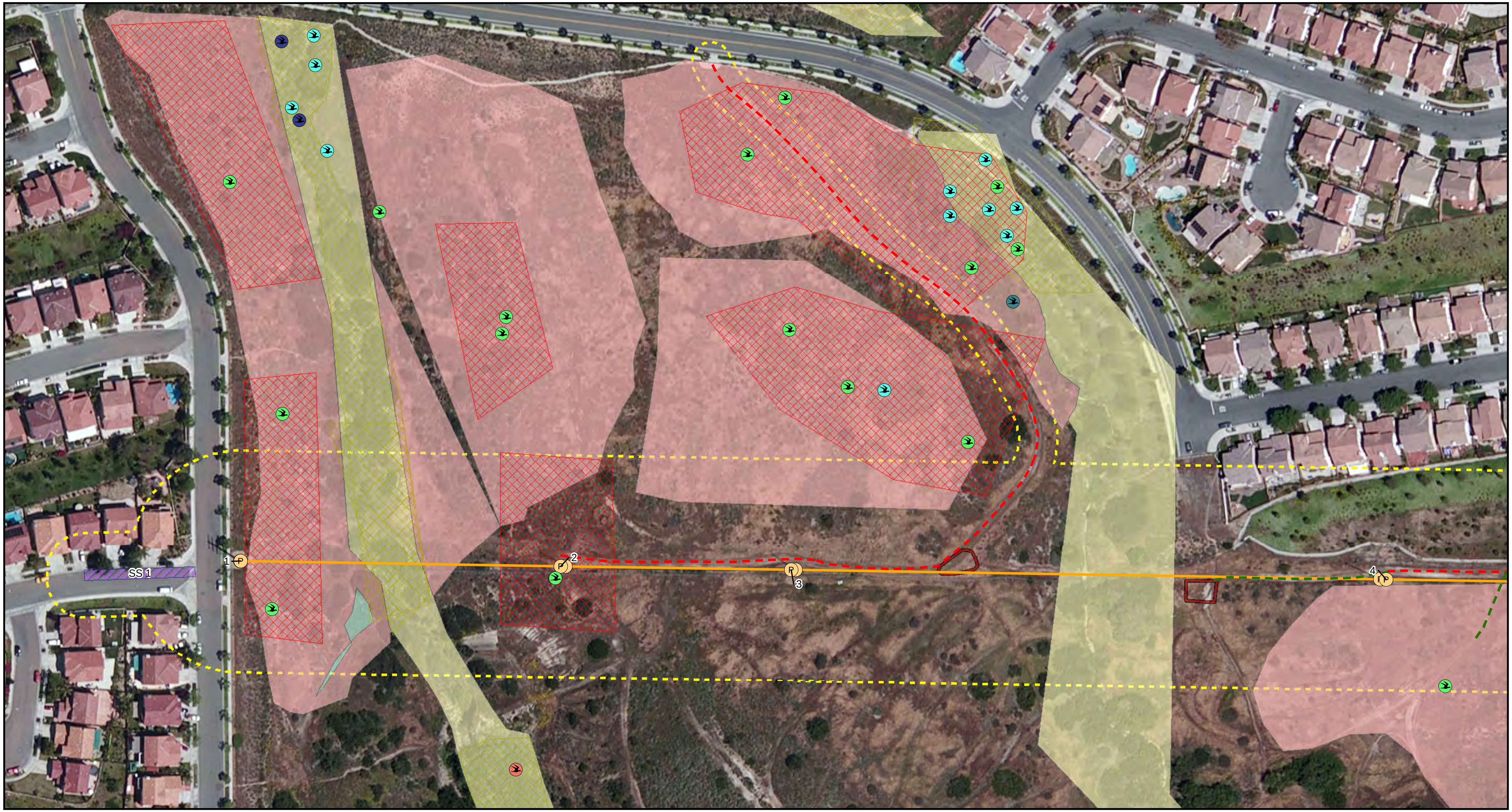


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road

Work Area Type Proposed

▨ String Site
☐ Turnaround Area

Observed Birds

● California Gnatcatcher
● Least Bell's Vireo
● Willow Flycatcher
● Yellow Warbler
● Yellow-breasted Chat

Habitat Type, Species

▭ Suitable, Burrowing Owl
▭ Suitable, California gnatcatcher
▭ Suitable, LBVI/SWFL/YBCU
▨ Occupied, California gnatcatcher
▨ Occupied, Least Bell's Vireo

N

0 50 100 200
Feet

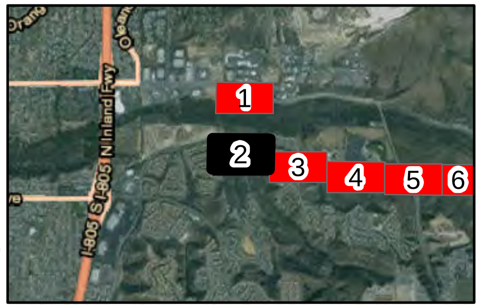


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- 🟧 Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road

Work Area Type Proposed

- ▨ String Site

Observed Birds

- ● California Gnatcatcher

Habitat Type, Species

- ▭ Suitable, California gnatcatcher
- ▨ Occupied, California gnatcatcher

N

0 50 100 200

Feet

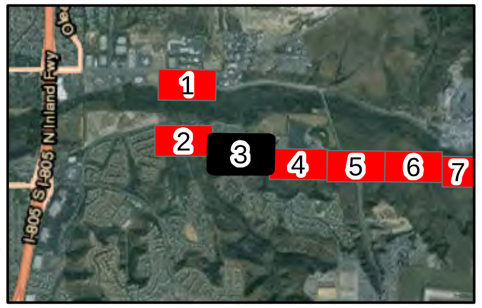


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Observed Birds

- California Gnatcatcher

Habitat Type, Species

- Suitable, California gnatcatcher
- ▨ Occupied, California gnatcatcher

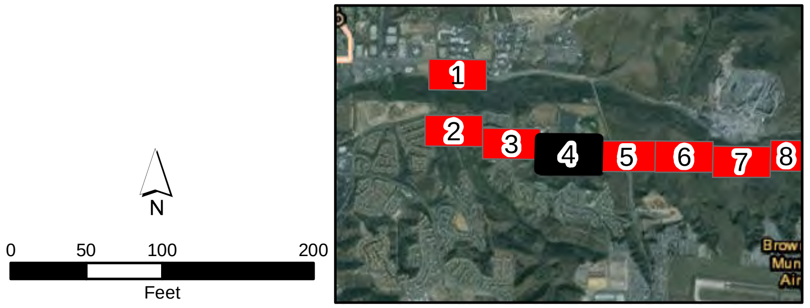

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 4 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

— Transmission Centerline
⬚ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type Proposed

▨ String Site
▭ Turnaround Area

Observed Birds

● California Gnatcatcher
● Least Bell's Vireo

Habitat Type, Species

🟩 Suitable, Burrowing Owl
🟥 Suitable, California gnatcatcher

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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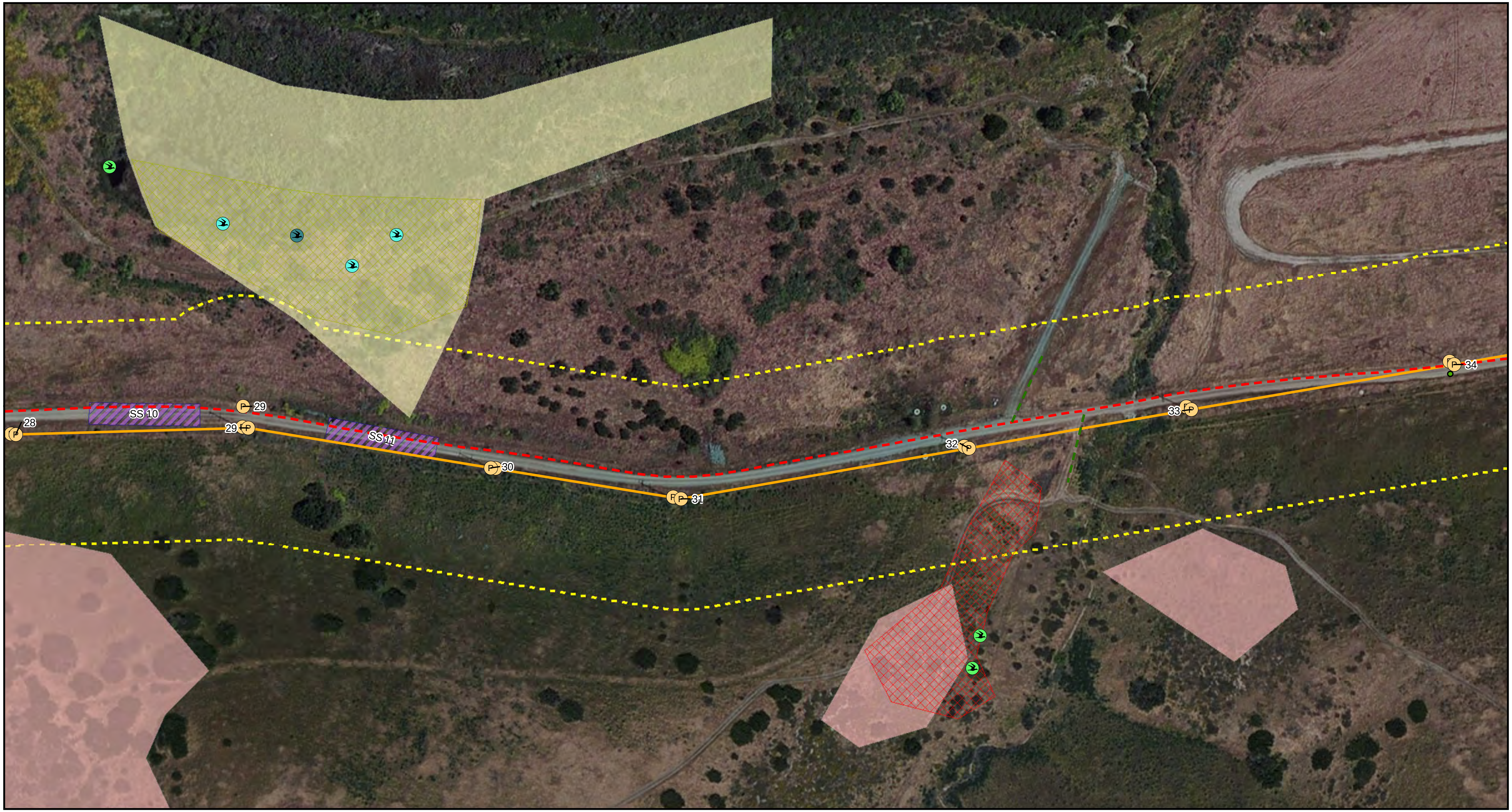


Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▨ String Site

Observed Birds

- ● California Gnatcatcher
- ● Least Bell's Vireo
- ● Yellow-breasted Chat

Habitat Type, Species

- Suitable, California gnatcatcher
- Suitable, LBVI/SWFL/YBCU
- ▨ Occupied, California gnatcatcher
- ▨ Occupied, Least Bell's Vireo

N

0 50 100 200
Feet

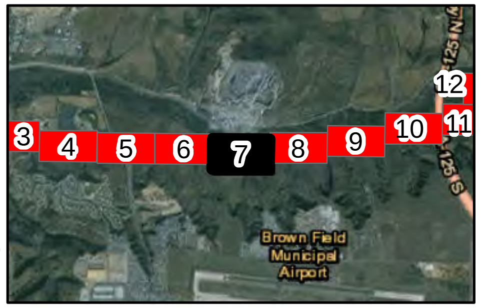
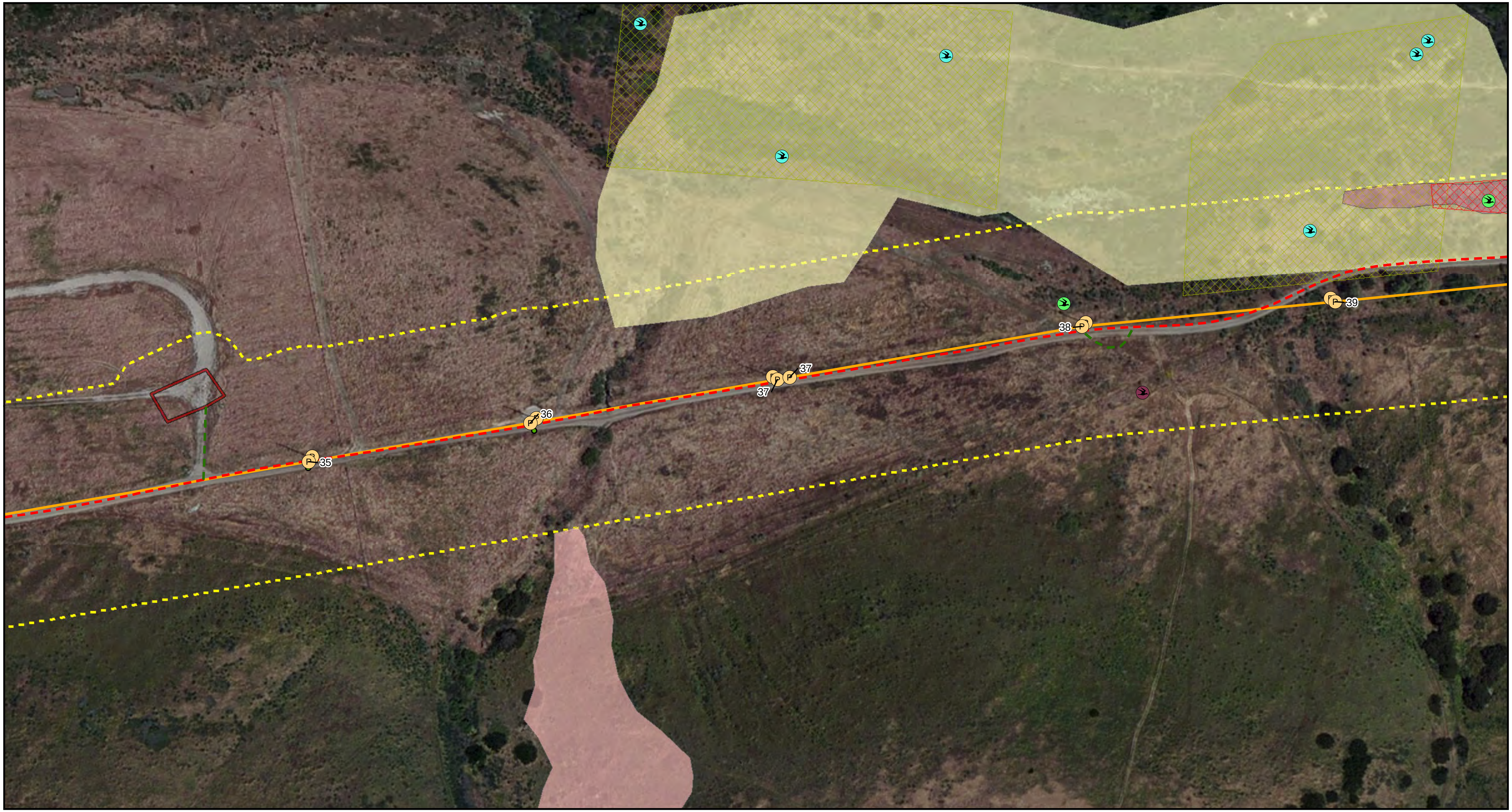


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transcription Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▭ Turnaround Area

Observed Birds

- ● California Gnatcatcher
- ● Grasshopper Sparrow
- ● Least Bell's Vireo

Habitat Type, Species

- ▨ Suitable, California gnatcatcher
- ▨ Suitable, LBVI/SWFL/YBCU
- ▨ Occupied, California gnatcatcher
- ▨ Occupied, Least Bell's Vireo

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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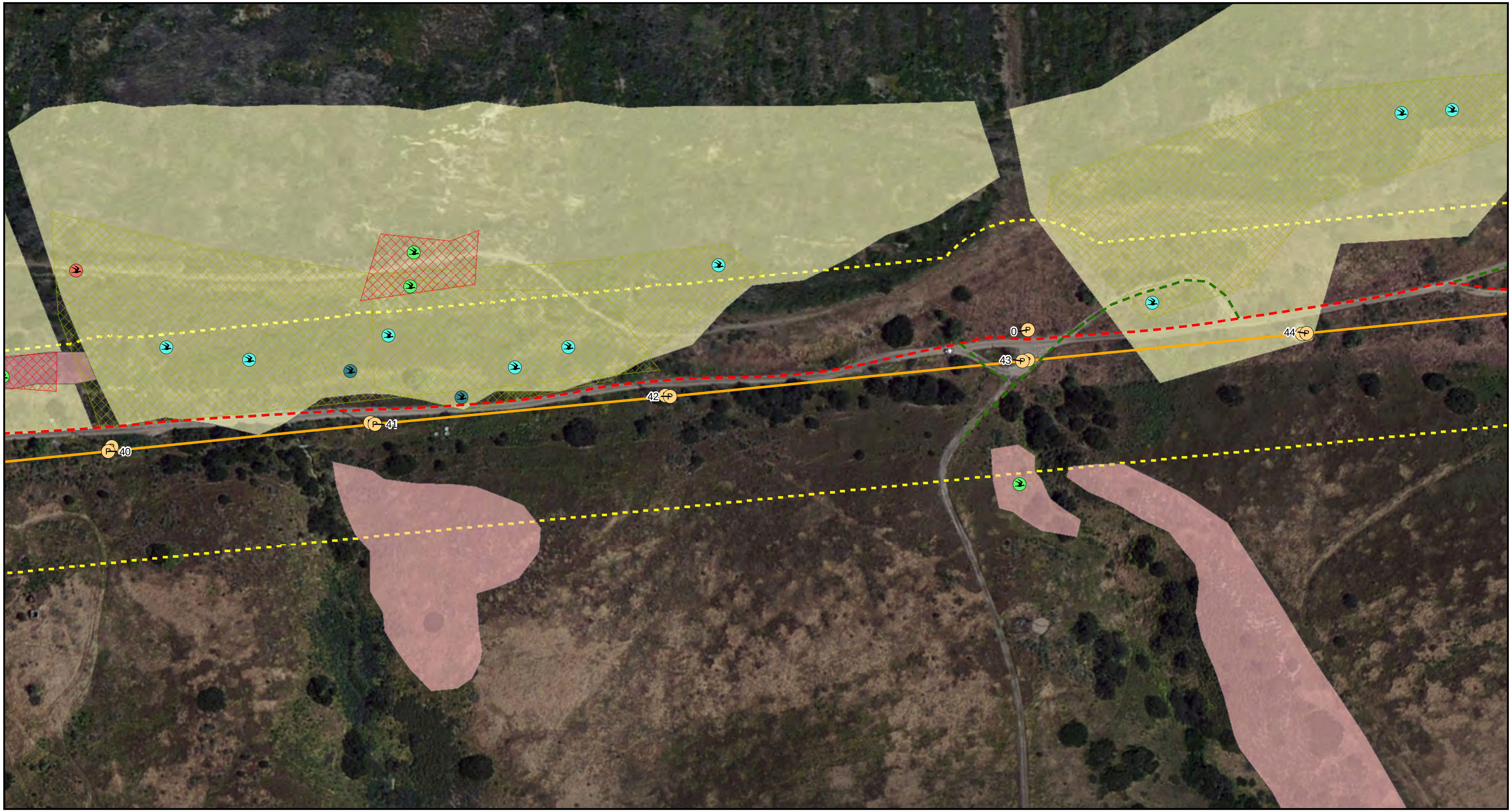

Legend

🟧 Transcription Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Observed Birds

● California Gnatcatcher
● Least Bell's Vireo
● Yellow Warbler
● Yellow-breasted Chat

Habitat Type, Species

▭ Suitable, California gnatcatcher
▭ Suitable, LBVI/SWFL/YBCU
▨ Occupied, California gnatcatcher
▨ Occupied, Least Bell's Vireo

N

0 50 100 200
Feet

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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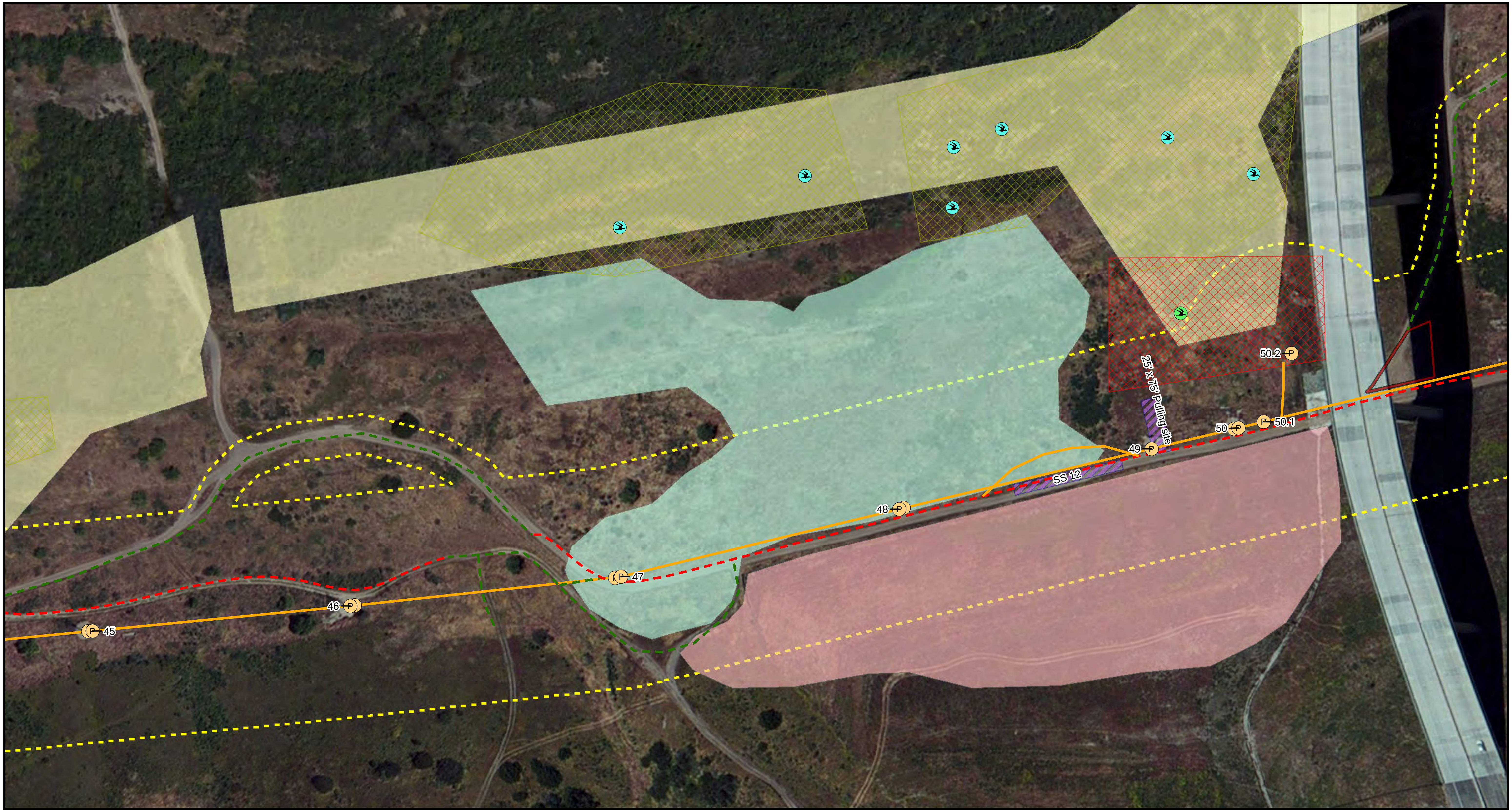

Legend

- 🟧 Transmission Centerline
- ▭ Survey Corridor
- Ⓟ Project Pole

Access Type

- ▬ Existing Non-TCM Access Road
- ▬ Access Road
- ▬ Overland Travel

Work Area Type Proposed

- ▨ String Site
- ▭ Turnaround Area

Observed Birds

- ● California Gnatcatcher
- ● Least Bell's Vireo

Habitat Type, Species

- 🟩 Suitable, Burrowing Owl
- 🟥 Suitable, California gnatcatcher
- 🟨 Suitable, LBVI/SWFL/YBCU
- ▨ Occupied, California gnatcatcher
- ▨ Occupied, Least Bell's Vireo

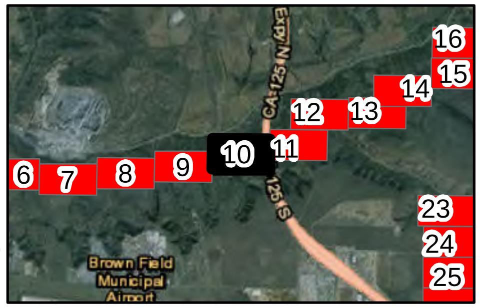

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

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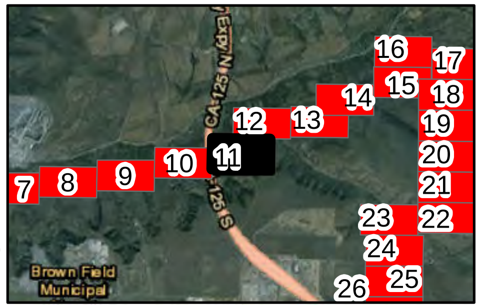

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
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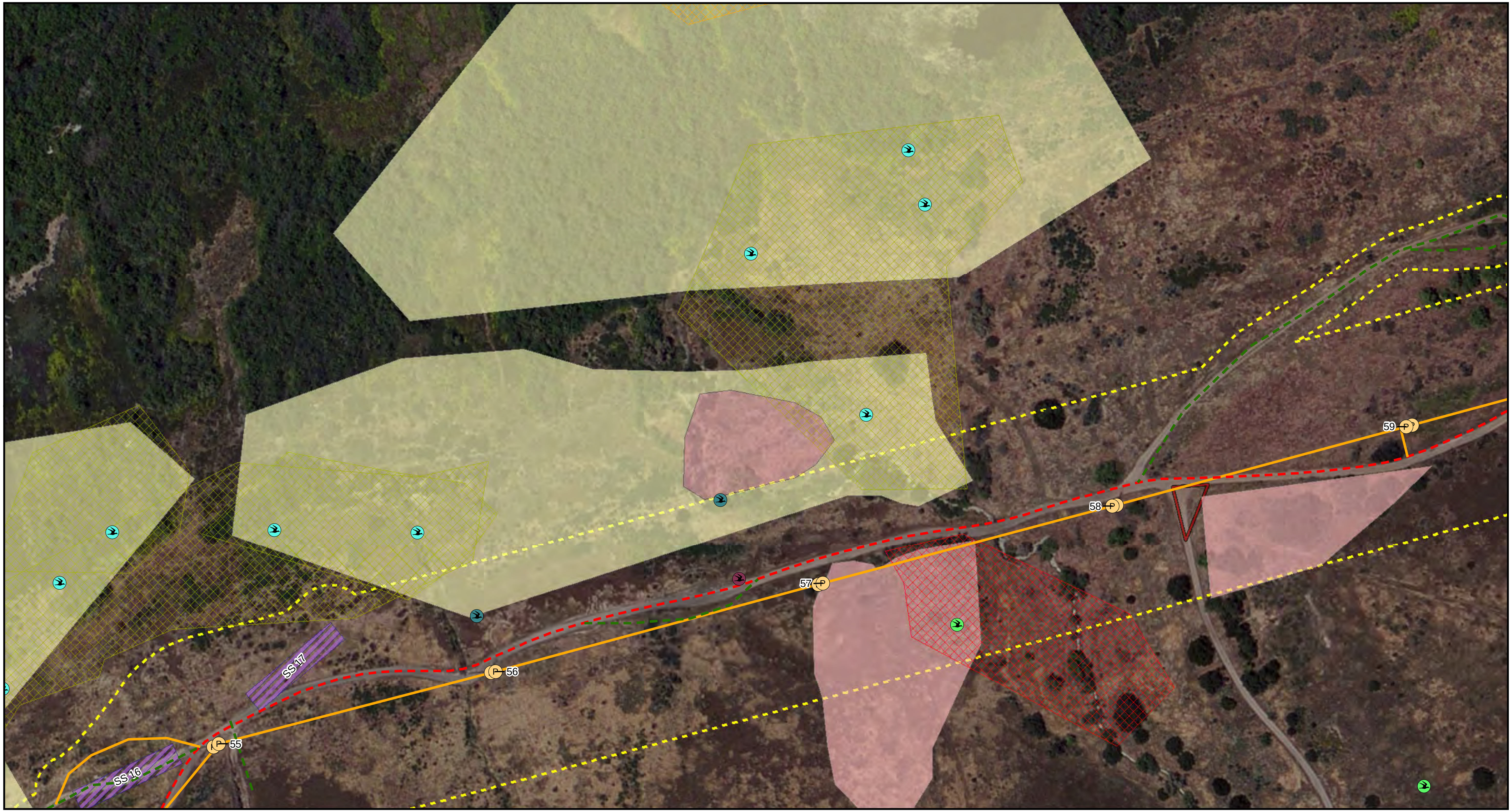

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ String Site
- ▭ Turnaround Area

Observed Birds

- ● California Gnatcatcher
- ● Grasshopper Sparrow
- ● Least Bell's Vireo
- ● Yellow-breasted Chat

Habitat Type, Species

- ▭ Suitable, California gnatcatcher
- ▭ Suitable, LBVI/SWFL/YBCU
- ▨ Occupied, California gnatcatcher
- ▨ Occupied, Least Bell's Vireo
- ▨ Occupied, Southwestern willow flycatcher

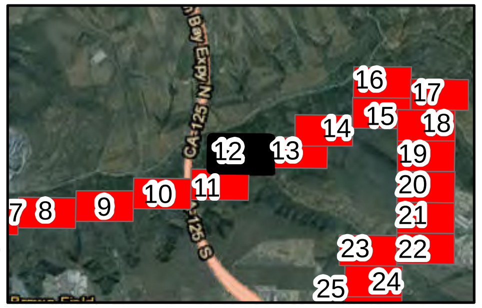

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
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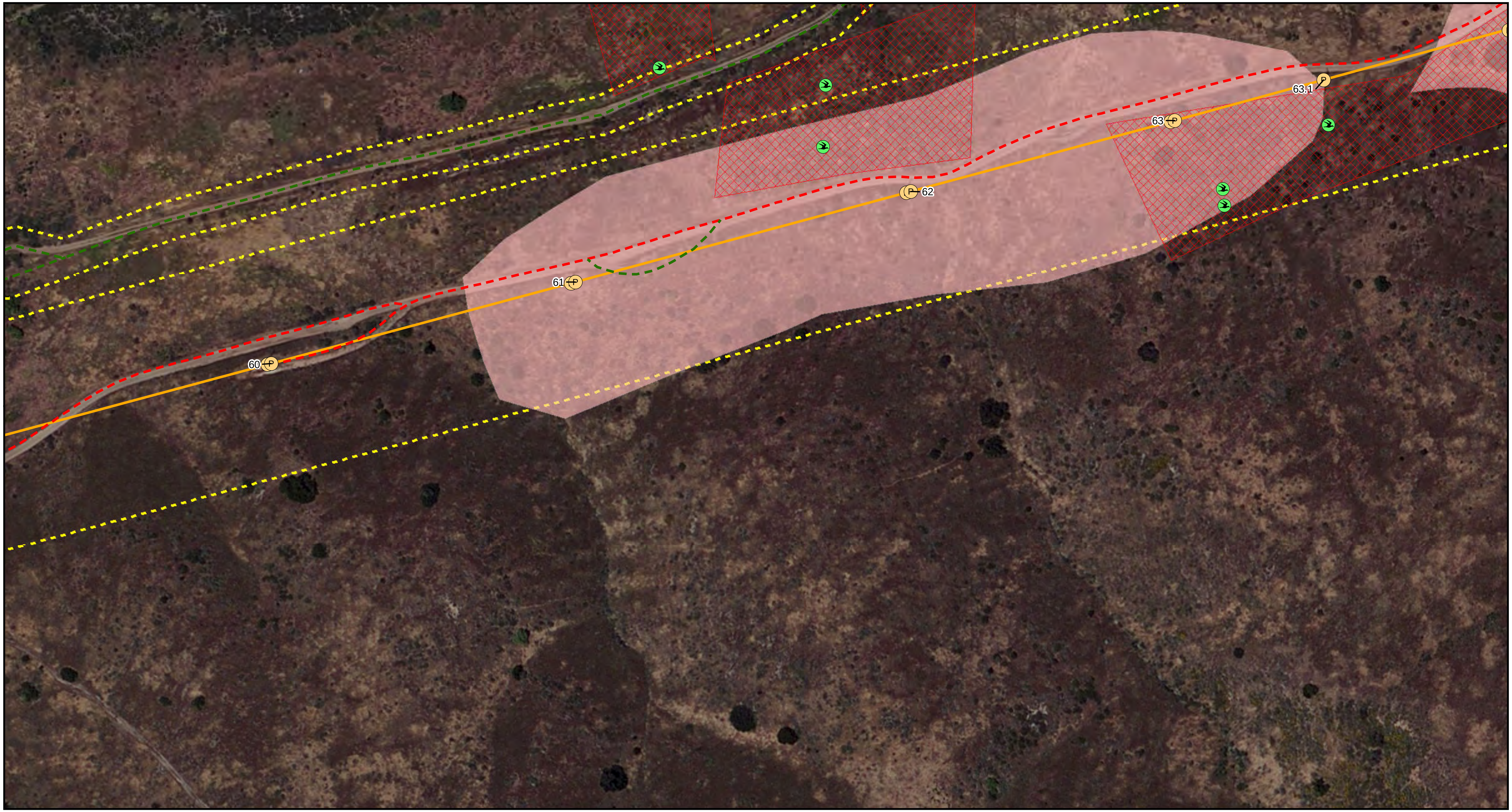

Legend

— Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Observed Birds

● California Gnatcatcher

Habitat Type, Species

▭ Suitable, California gnatcatcher
▨ Occupied, California gnatcatcher

Figure 6
TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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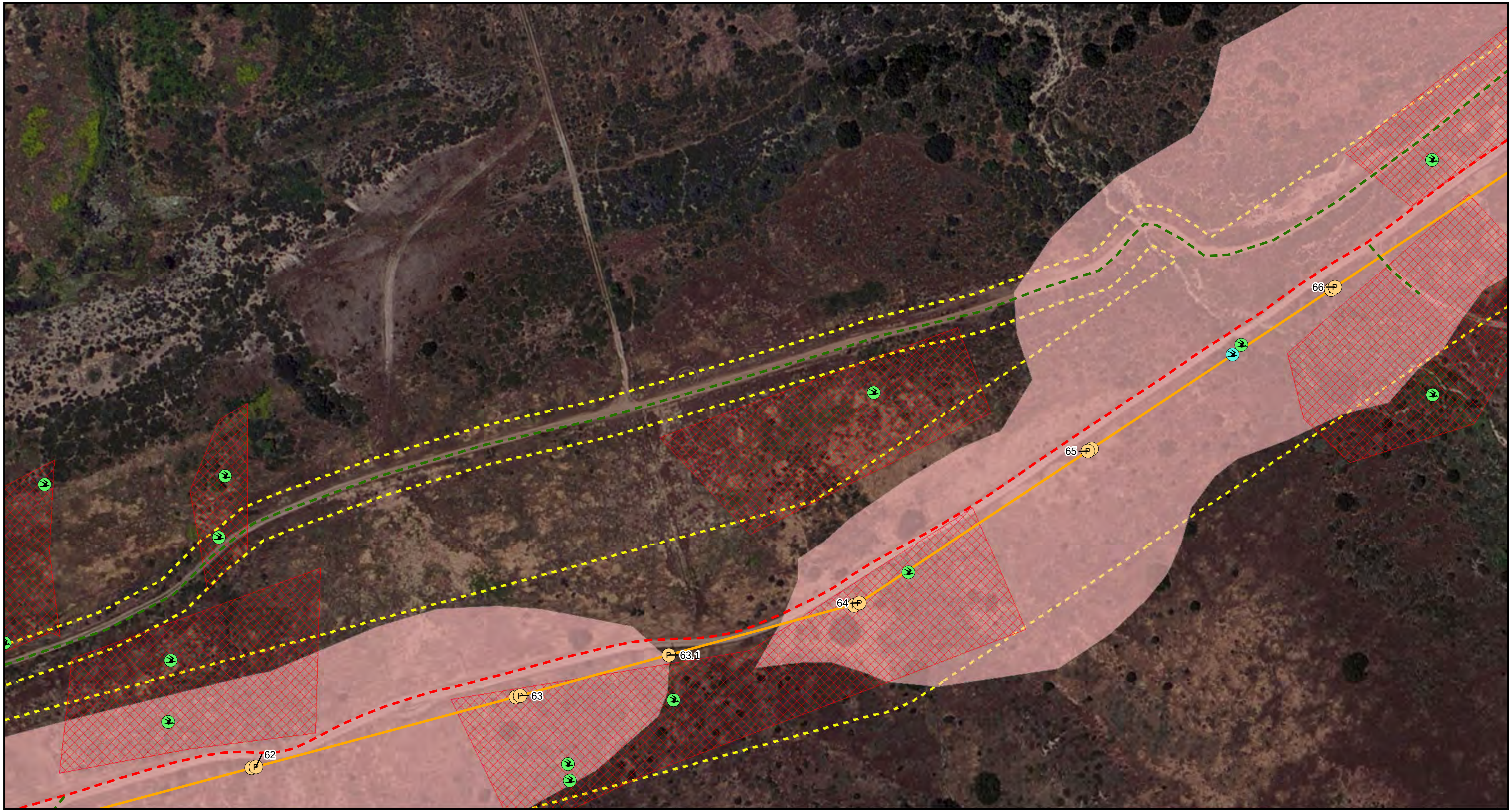


Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

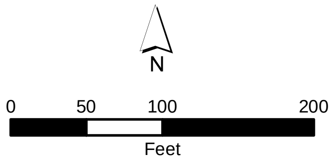
- Existing Non-TCM Access Road
- Access Road

Observed Birds

- ● California Gnatcatcher
- ● Least Bell's Vireo

Habitat Type, Species

- ▭ Suitable, California gnatcatcher
- ▨ Occupied, California gnatcatcher



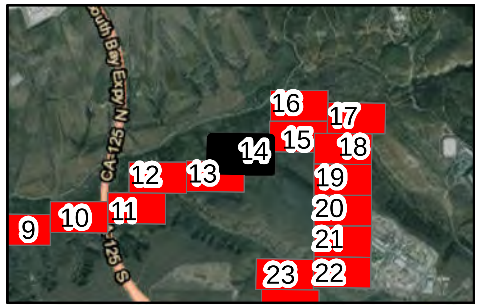


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Observed Birds

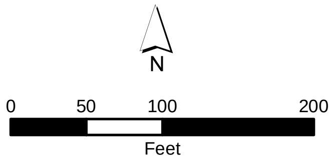
- ● California Gnatcatcher

Observed Mammals

- ● San Diego black-tailed jackrabbit

Habitat Type, Species

- ▭ Suitable, California gnatcatcher
- ▨ Occupied, California gnatcatcher



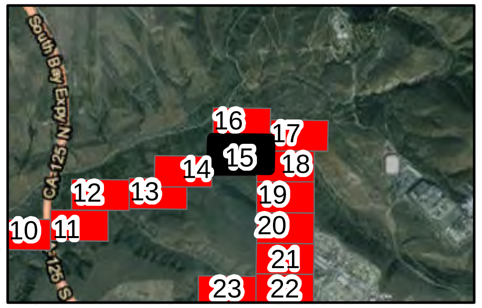
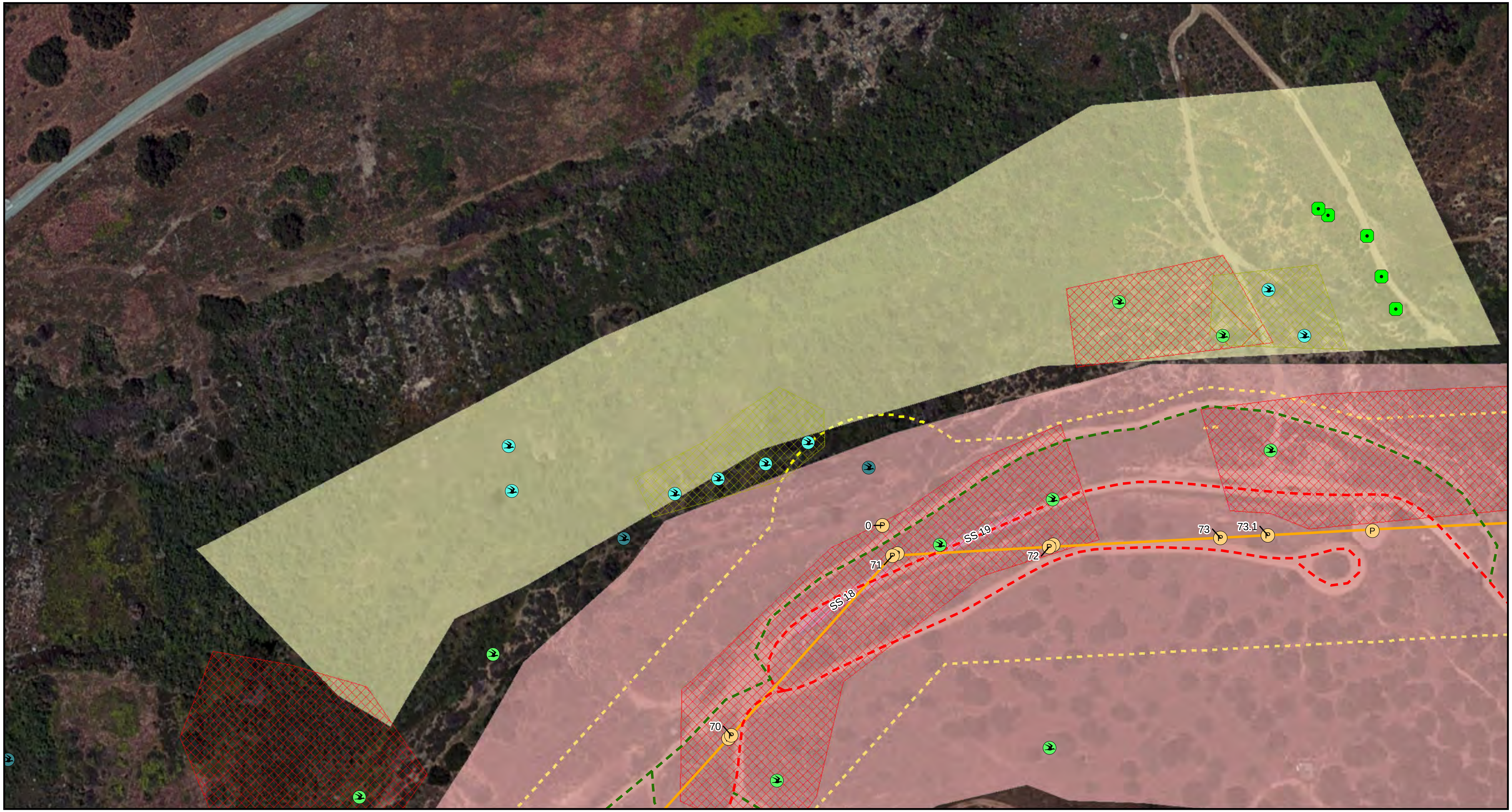


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 15 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Transcission Centerline
- Survey Corridor
- Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▨ String Site

Observed Birds

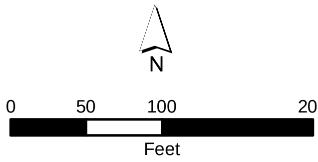
- ● California Gnatcatcher
- ● Least Bell's Vireo
- ● Yellow-breasted Chat

Observed Invertebrates

- ● Thorne's hairstreak

Habitat Type, Species

- ▭ Suitable, California gnatcatcher
- ▭ Suitable, LBVI/SWFL/YBCU
- ▨ Occupied, California gnatcatcher
- ▨ Occupied, Least Bell's Vireo



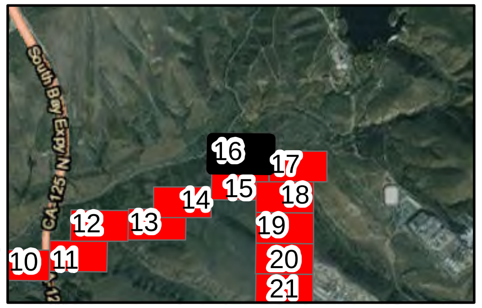
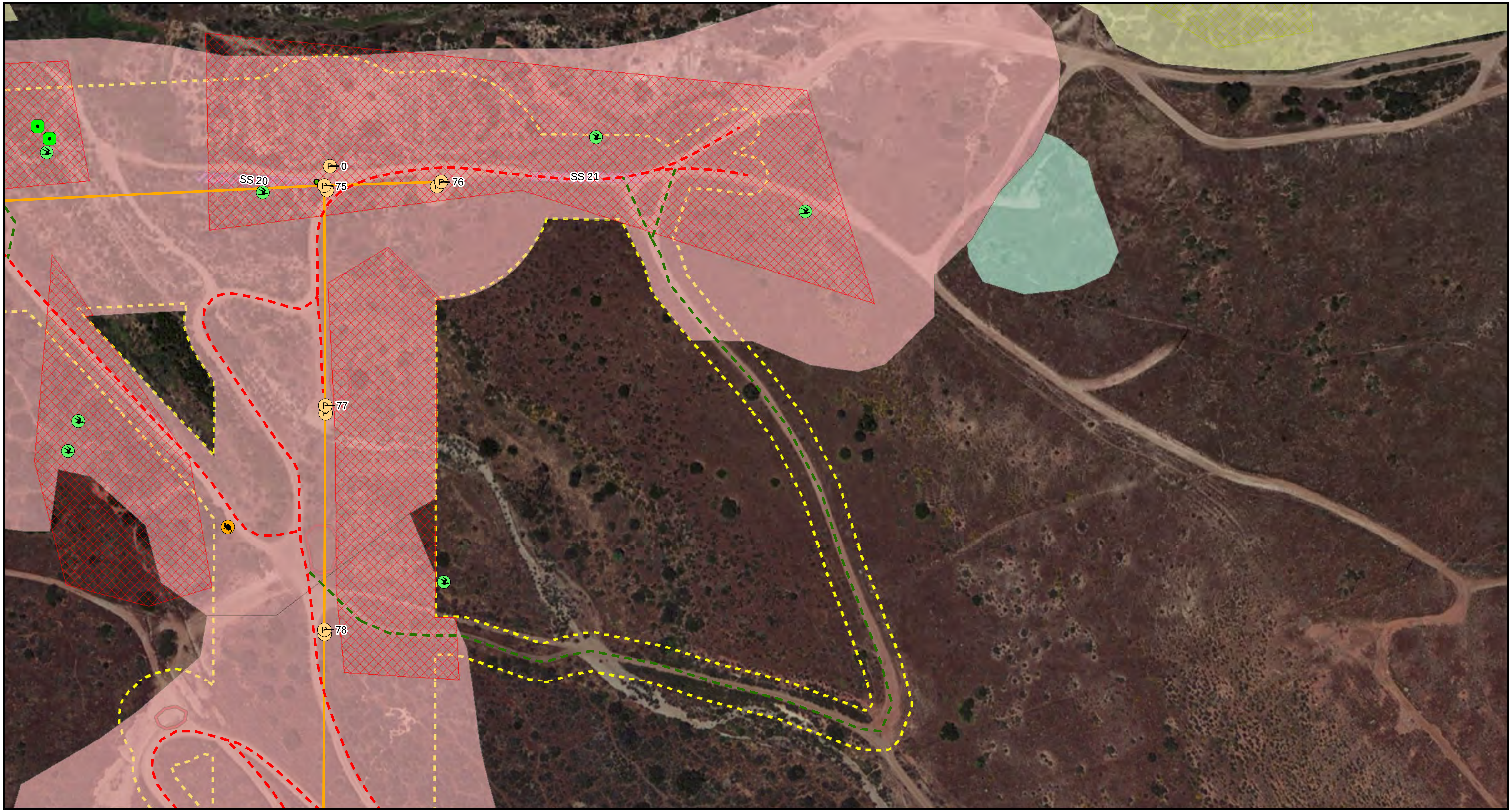


Figure 6

TL-649 Wood-to-Steel Project Biological Technical Report Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

Transcription Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road
Access Road

Work Area Type Proposed

▨ String Site
☐ Turnaround Area

Observed Birds

● California Gnatcatcher
● Least Bell's Vireo

Observed Invertebrates

● Thorne's hairstreak

Observed Mammals

● San Diego black-tailed jackrabbit

Habitat Type, Species

Suitable, Burrowing Owl
Suitable, California gnatcatcher

Suitable, LBVI/SWFL/YBCU
▨ Occupied, California gnatcatcher
▨ Occupied, Least Bell's Vireo

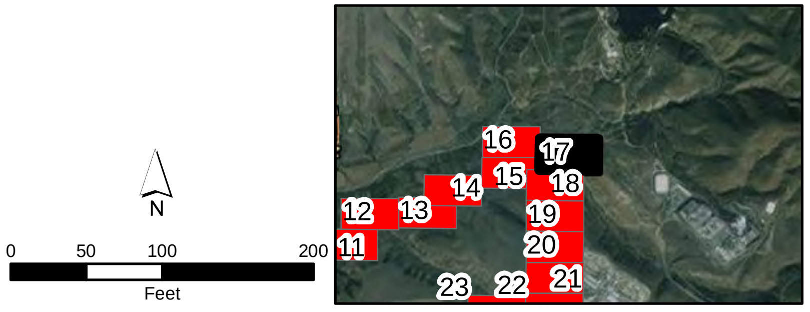


Figure 6
TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Transmission Centerline
Survey Corridor
Ⓟ Project Pole

Access Type

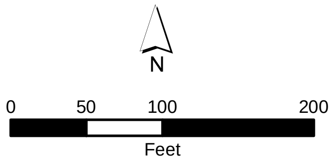
Existing Non-TCM Access Road
Access Road
Overland Travel

Observed Birds

● California Gnatcatcher

Habitat Type, Species

▨ Suitable, California gnatcatcher



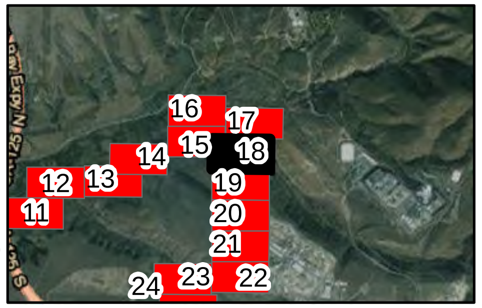


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
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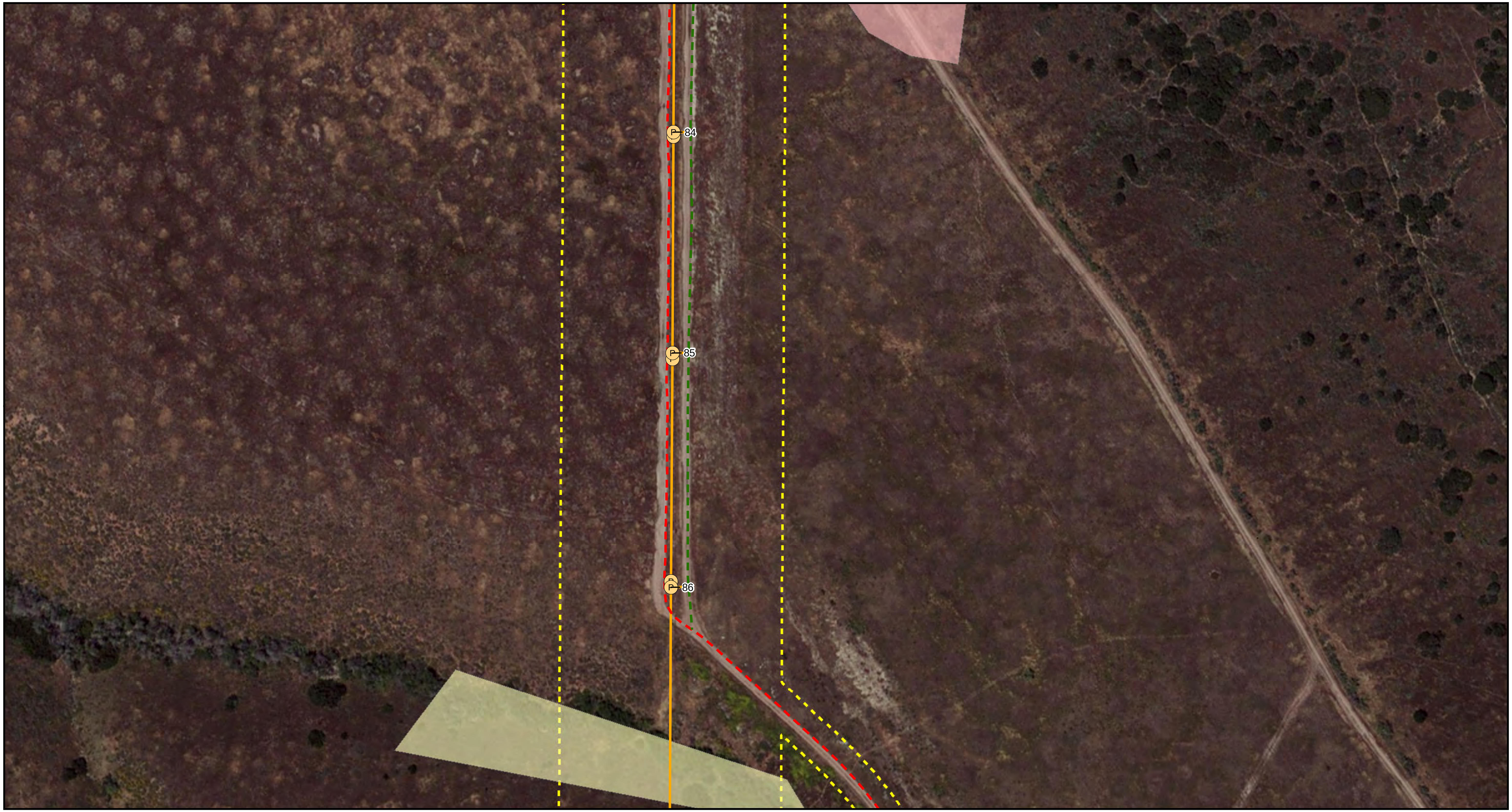

Legend

— Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

-- Existing Non-TCM Access Road
-- Access Road
— Overland Travel

Habitat Type, Species

▭ Suitable, California gnatcatcher
▭ Suitable, LBVI/SWFL/YBCU

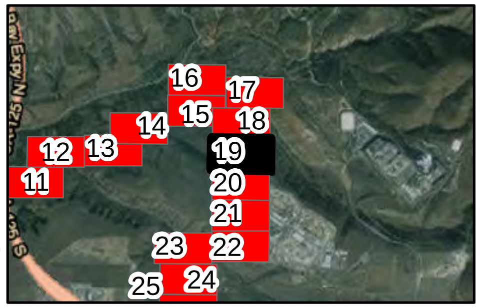

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟧 Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road
🟧 Overland Travel

Habitat Type, Species

▭ Suitable, LBVI/SWFL/YBCU

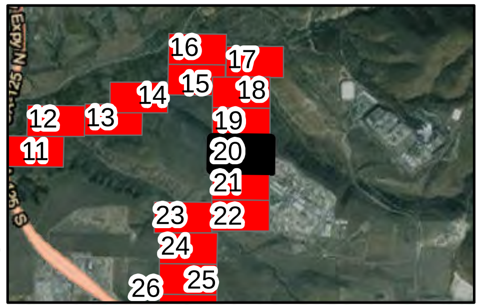

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

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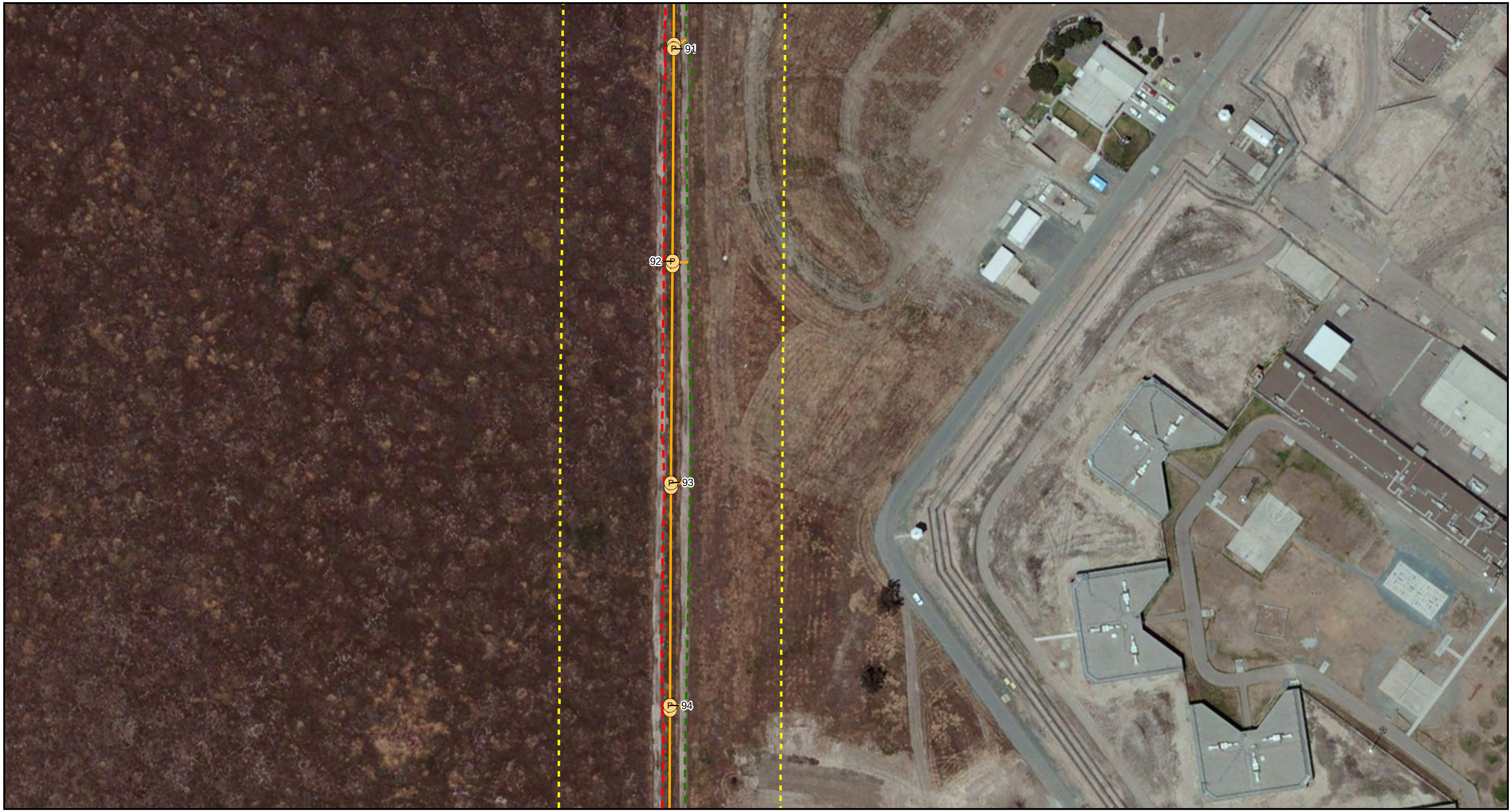

Legend

🟧 Transcription Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

🟩 Existing Non-TCM Access Road
🟥 Access Road
🟧 Overland Travel

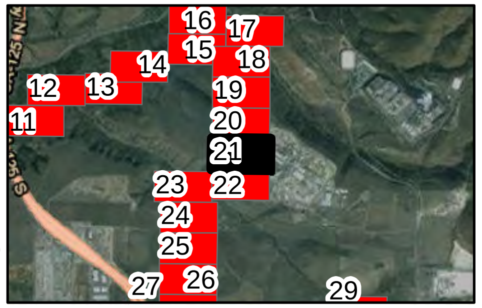

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

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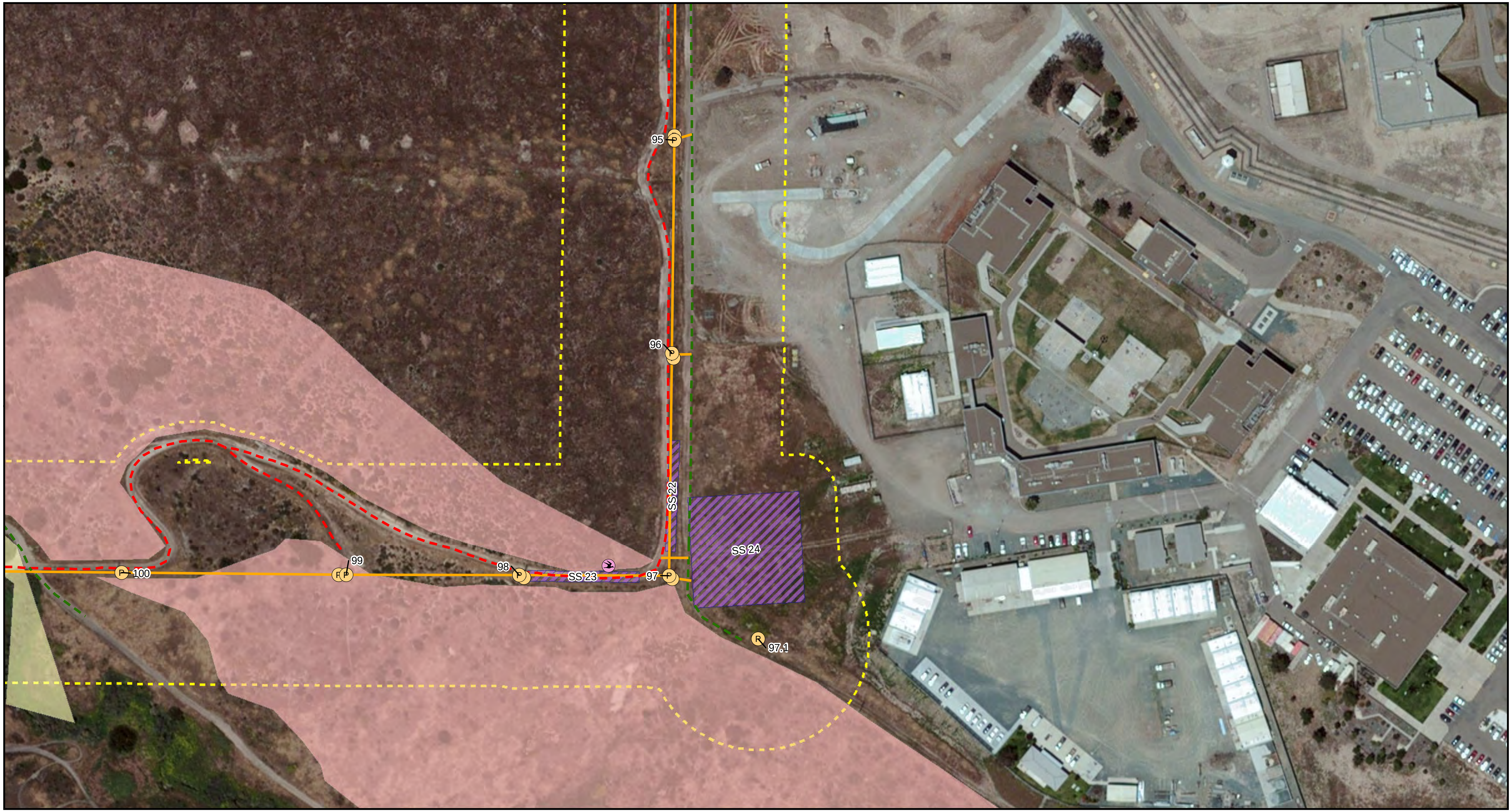

Legend

- ▬ Transmission Centerline
- ⬚ Survey Corridor
- Ⓟ Project Pole

Access Type

- - - Existing Non-TCM Access Road
- - - Access Road
- ▬ Overland Travel

Work Area Type Proposed

- ▨ String Site

Observed Birds

- ● Southern California Rufous-crowned Sparrow

Habitat Type, Species

- 🟥 Suitable, California gnatcatcher
- 🟨 Suitable, LBVI/SWFL/YBCU

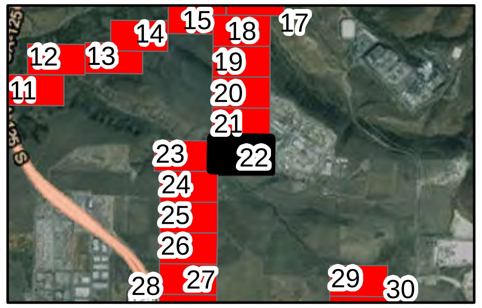

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

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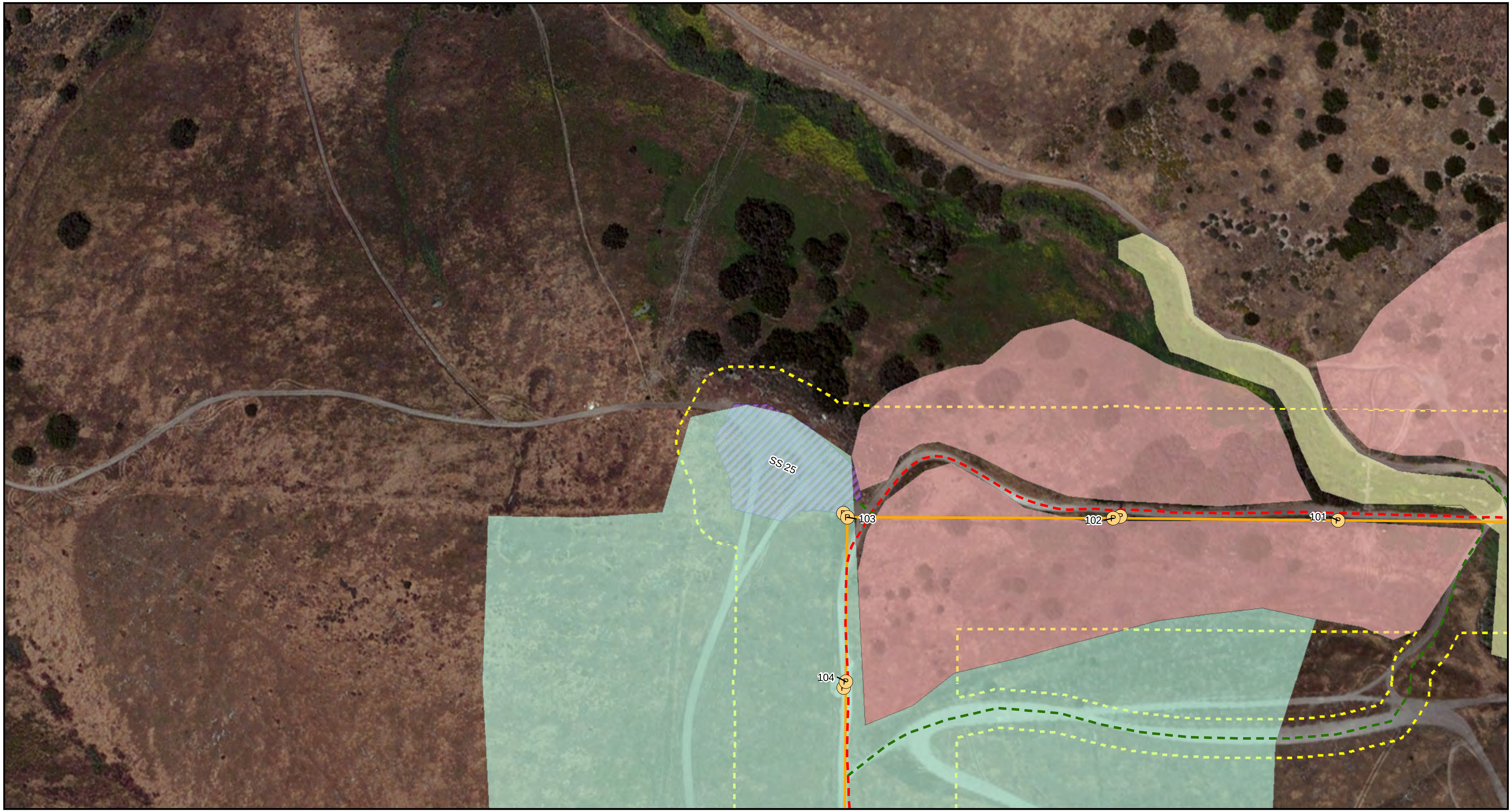

Legend

— Transmission Centerline
⬚ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type Proposed

▨ String Site

Habitat Type, Species

🟩 Suitable, Burrowing Owl
🟥 Suitable, California gnatcatcher
🟨 Suitable, LBVI/SWFL/YBCU

N

0 50 100 200
Feet

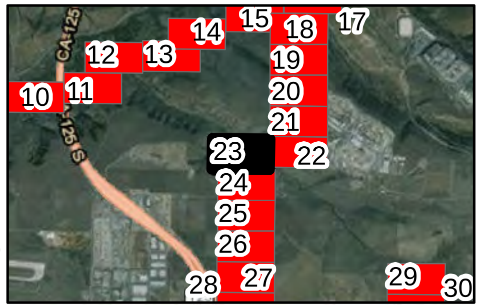

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

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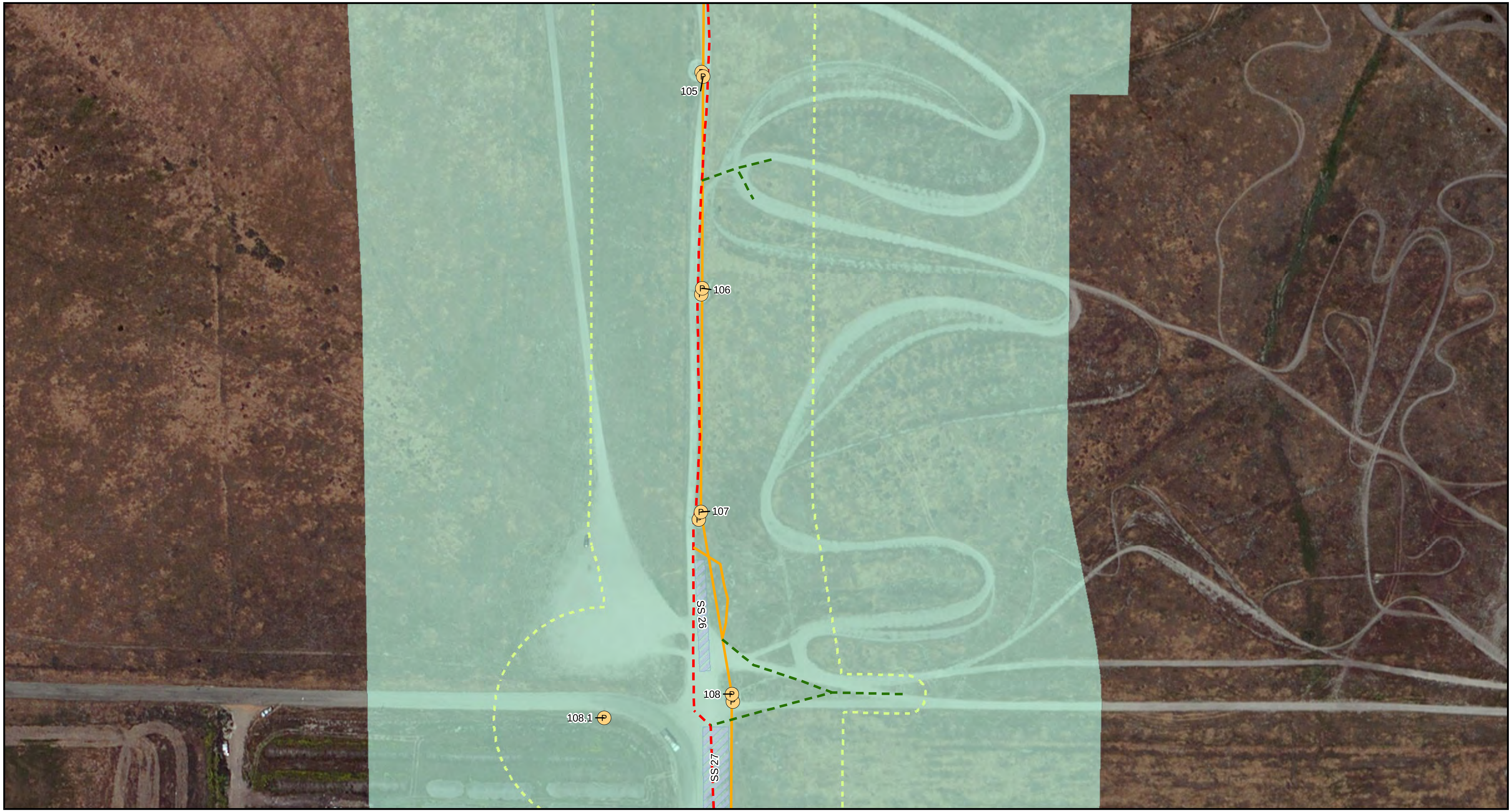

Legend

- Transmission Centerline
- Survey Corridor
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ String Site

Habitat Type, Species

- 🟩 Suitable, Burrowing Owl

N

0 50 100 200
Feet

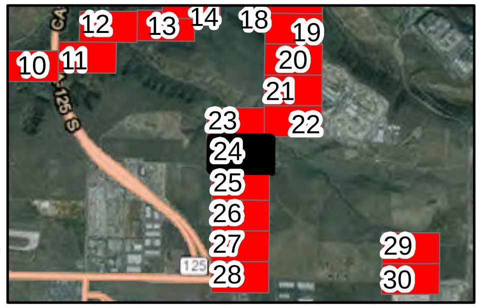

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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Legend

🟧 Transmission Centerline

▭ Survey Corridor

Ⓟ Project Pole

Access Type

-- Existing Non-TCM Access Road

-- Access Road

Work Area Type Proposed

▨ String Site

Observed Birds

● Grasshopper Sparrow

Habitat Type, Species

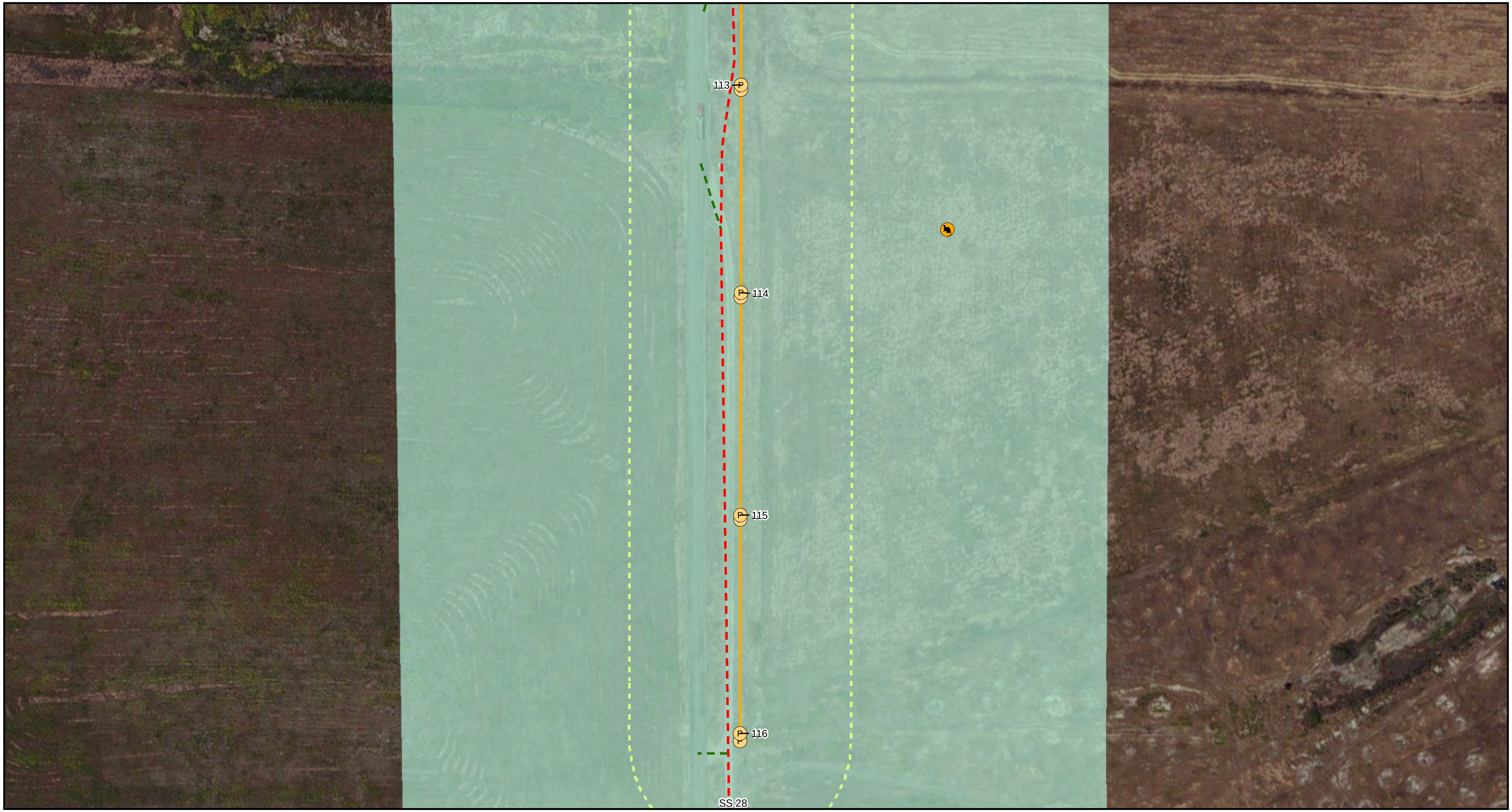
🟩 Suitable, Burrowing Owl

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 25 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

— Transmission Centerline
▭ Survey Corridor
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road
- - Access Road

Work Area Type Proposed

▨ String Site

Observed Mammals

● San Diego black-tailed jackrabbit

Habitat Type, Species

🟩 Suitable, Burrowing Owl

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟨 Survey Corridor

Access Type

-- Existing Non-TCM Access Road

-- Access Road

Work Area Type Proposed

▨ String Site

Observed Birds

● Northern Harrier

Habitat Type, Species

🟩 Suitable, Burrowing Owl

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟨 Survey Corridor

Access Type

- - Existing Non-TCM Access Road

- - Access Road

Habitat Type, Species

🟩 Suitable, Burrowing Owl

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 28 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

- ┅ Survey Corridor

Work Area Type Proposed

- ▨ Staging Yard

Habitat Type, Species

- 🟩 Suitable, Burrowing Owl

Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 29 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

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Legend

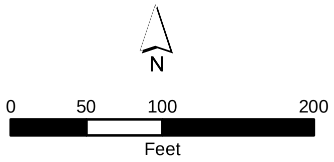
▨ Survey Corridor

Work Area Type Proposed

▨ Staging Yard

Habitat Type, Species

🟩 Suitable, Burrowing Owl



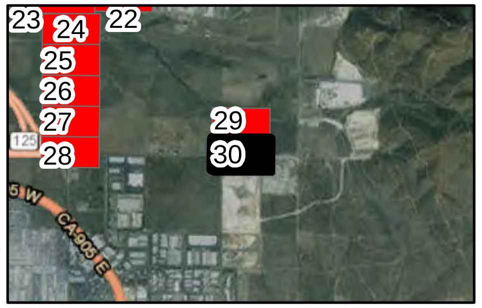


Figure 6

TL-649 Wood-to-Steel Project
Biological Technical Report
Wildlife Species Observed Map

Page 30 of 30

Name: 20775 BTR Fig 6 Wildlife Species Obs.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

▭ Survey Buffer

▭ Staging Yard

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Page 1 of 30

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓗ Pole Top Work Only
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- ▭ Turnaround Area

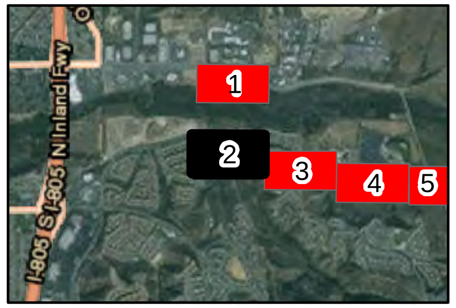


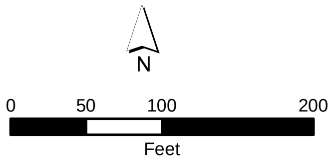
Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ▭ Survey Buffer
- ▨ String Site



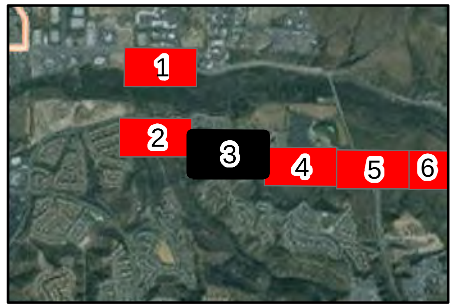
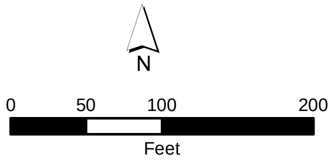


Figure 7
TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- -- Existing Non-TCM Access Road
- -- Access Road
- ▭ Survey Buffer



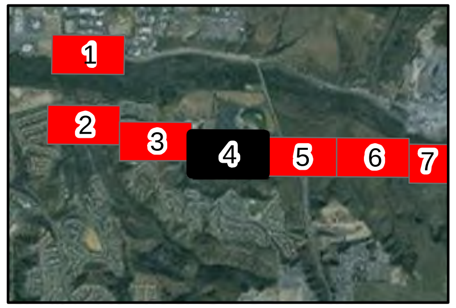


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓗ Pole Top Work Only
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▭ Survey Buffer
- ✚ Guard Structures
- ▨ String Site
- ▭ Turnaround Area
- ▭ EMS Quino Mapped Area
- ▭ QCB Unsuitable Habitat

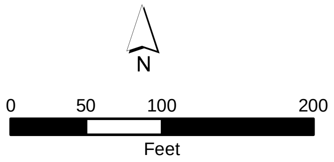


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
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Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ▭ Survey Buffer
- ▨ String Site
- ▭ Turnaround Area
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

N

0 50 100 200
Feet

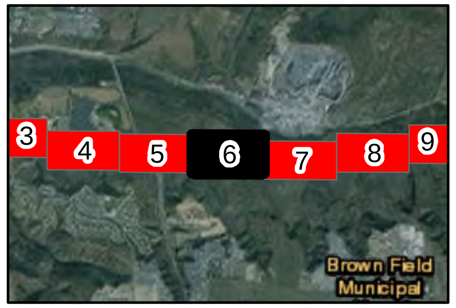

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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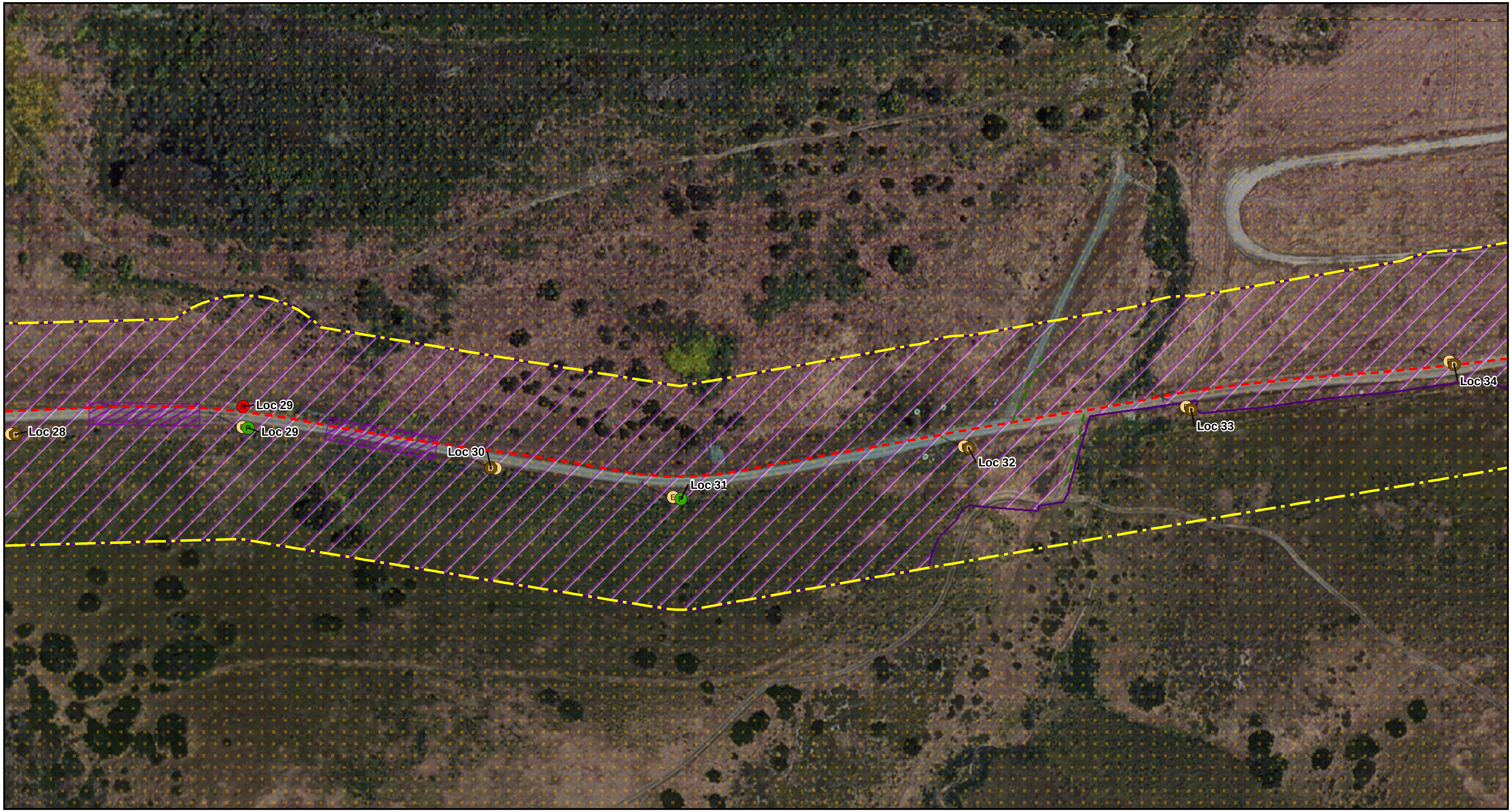

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ⬚ Survey Buffer
- ▨ String Site
- ▦ EMS Quino Mapped Area
- ☐ QCB Unsuitable Habitat

N

0 50 100 200
Feet

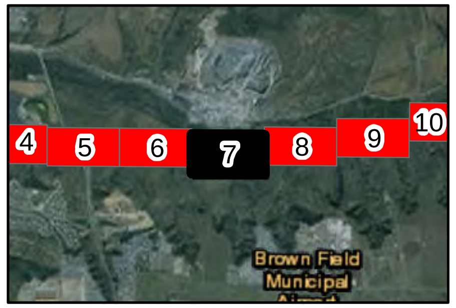

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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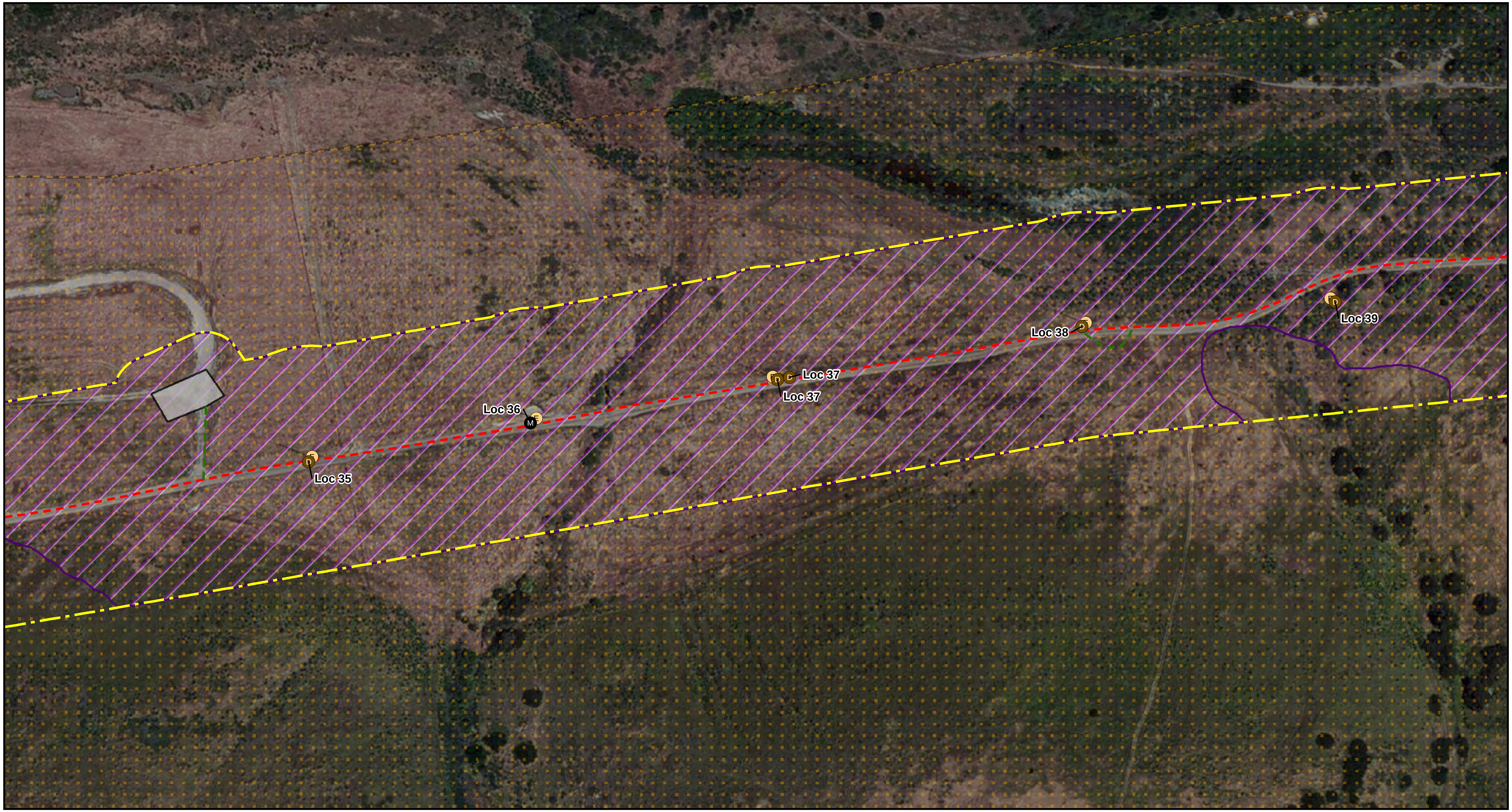
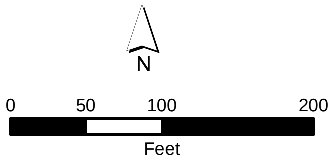


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓜ Micro Pile Foundation Steel Pole
- Ⓔ Existing Pole
- ‑ ‑ Existing Non-TCM Access Road
- ‑ ‑ Access Road
- ⬚ Survey Buffer
- ▭ Turnaround Area
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



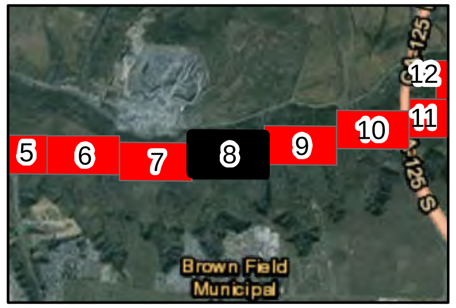


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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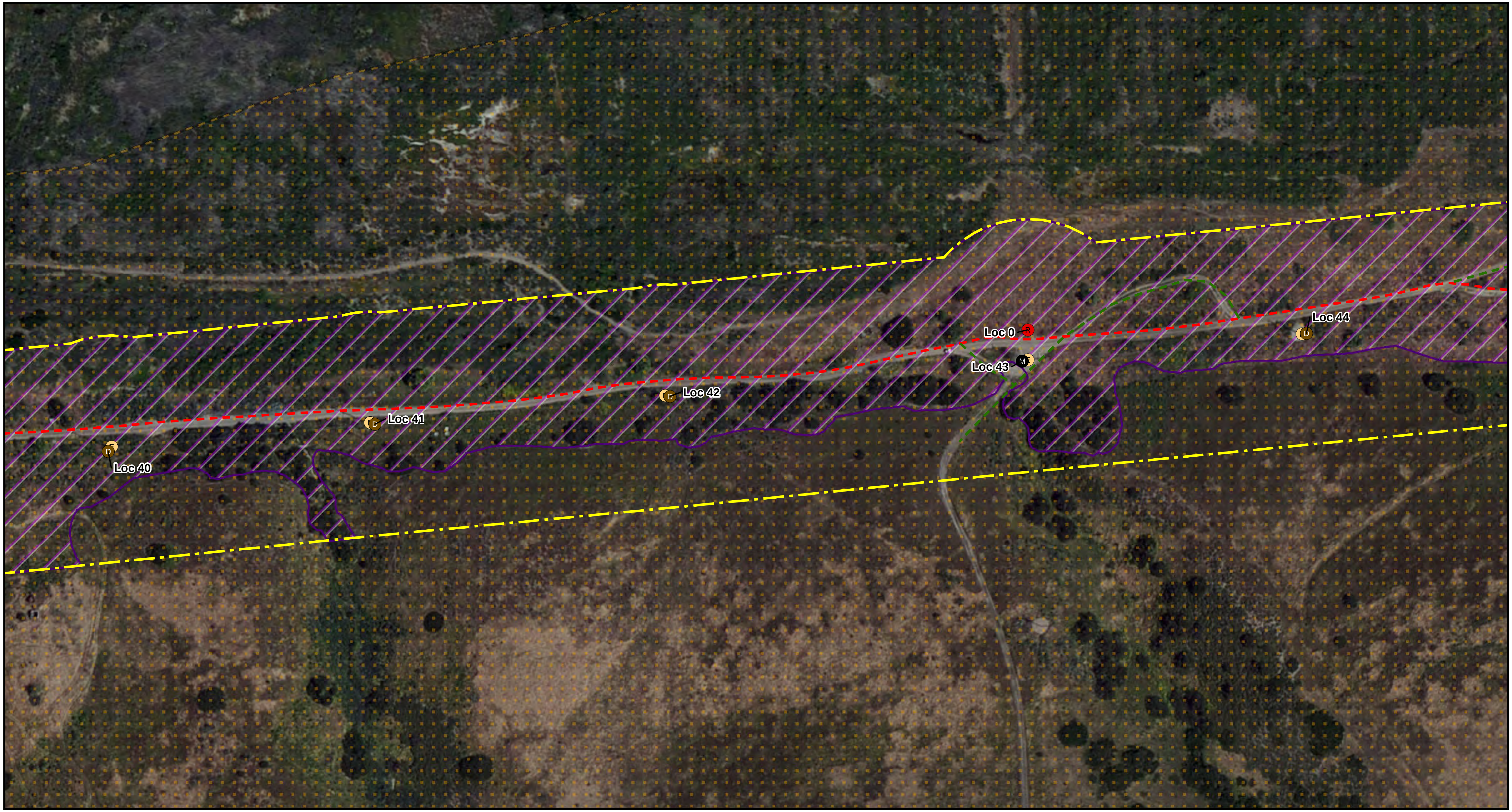

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓜ Micro Pile Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ⬚ Survey Buffer
- ⬚ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

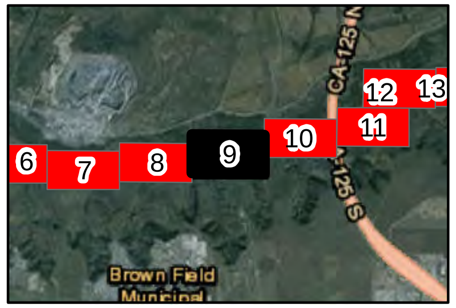

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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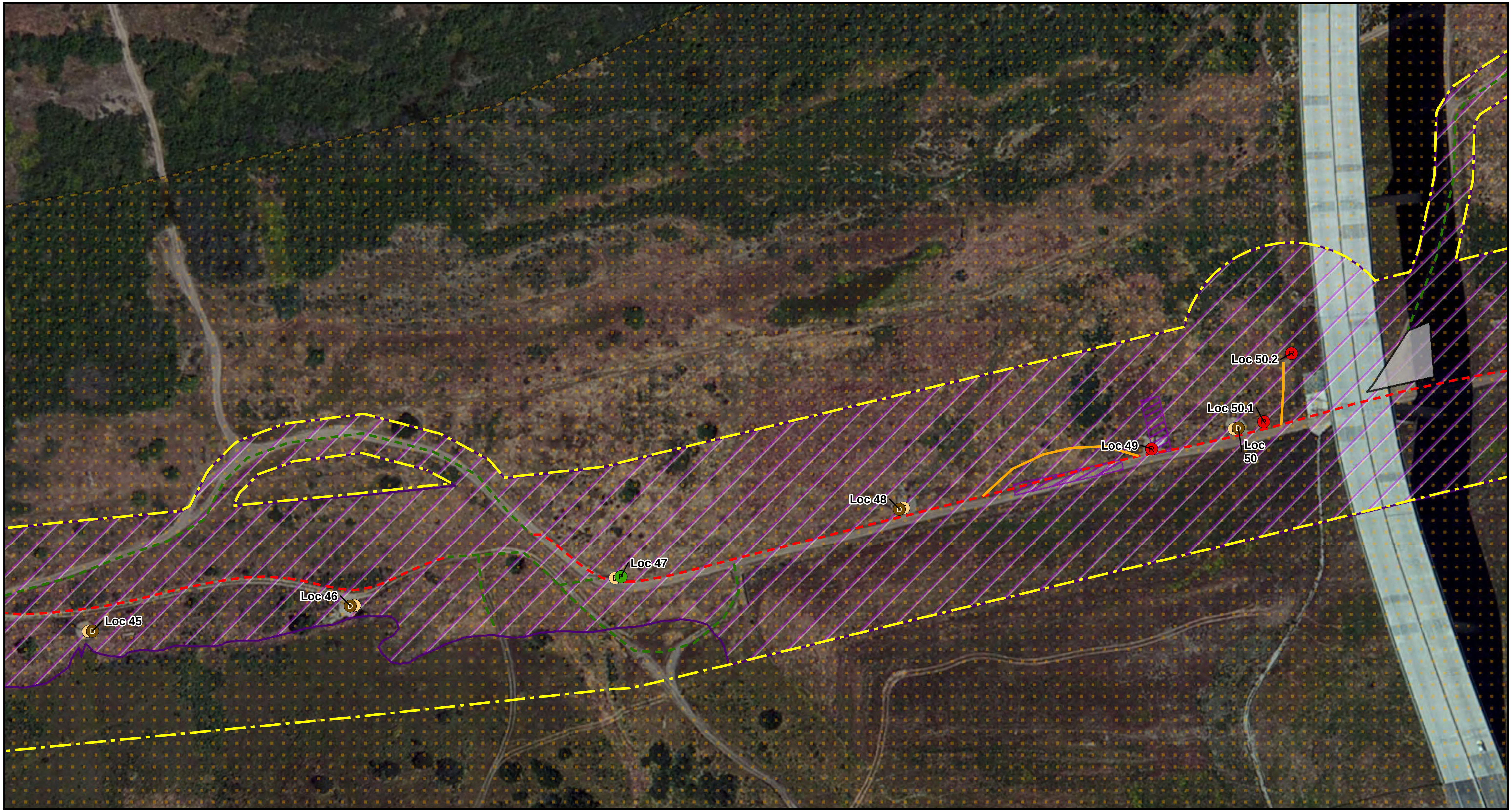

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▬ Overland Travel
- ▭ Survey Buffer
- ▨ String Site
- ▭ Turnaround Area
- ▦ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

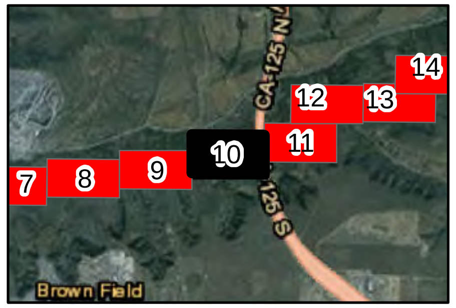

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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Print Date: 6/30/2015, Author: msimmons

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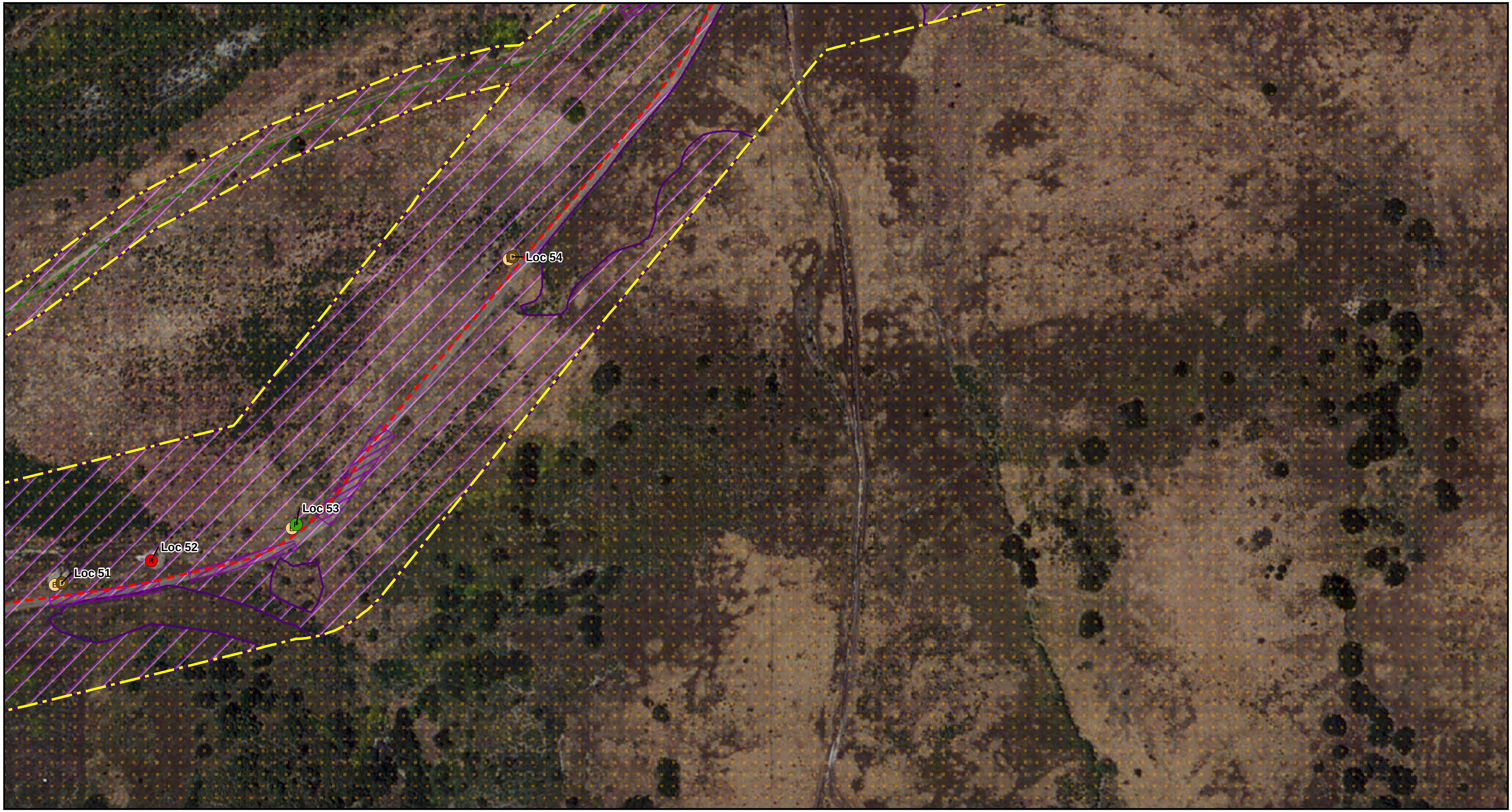

Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▬▬ Overland Travel
- ▭ Survey Buffer
- ▨ String Site
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

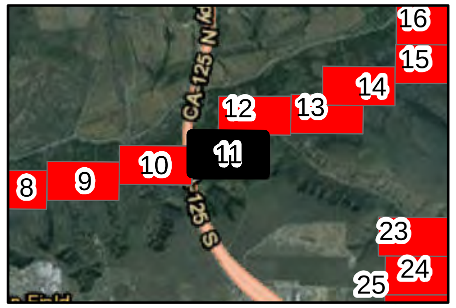

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons
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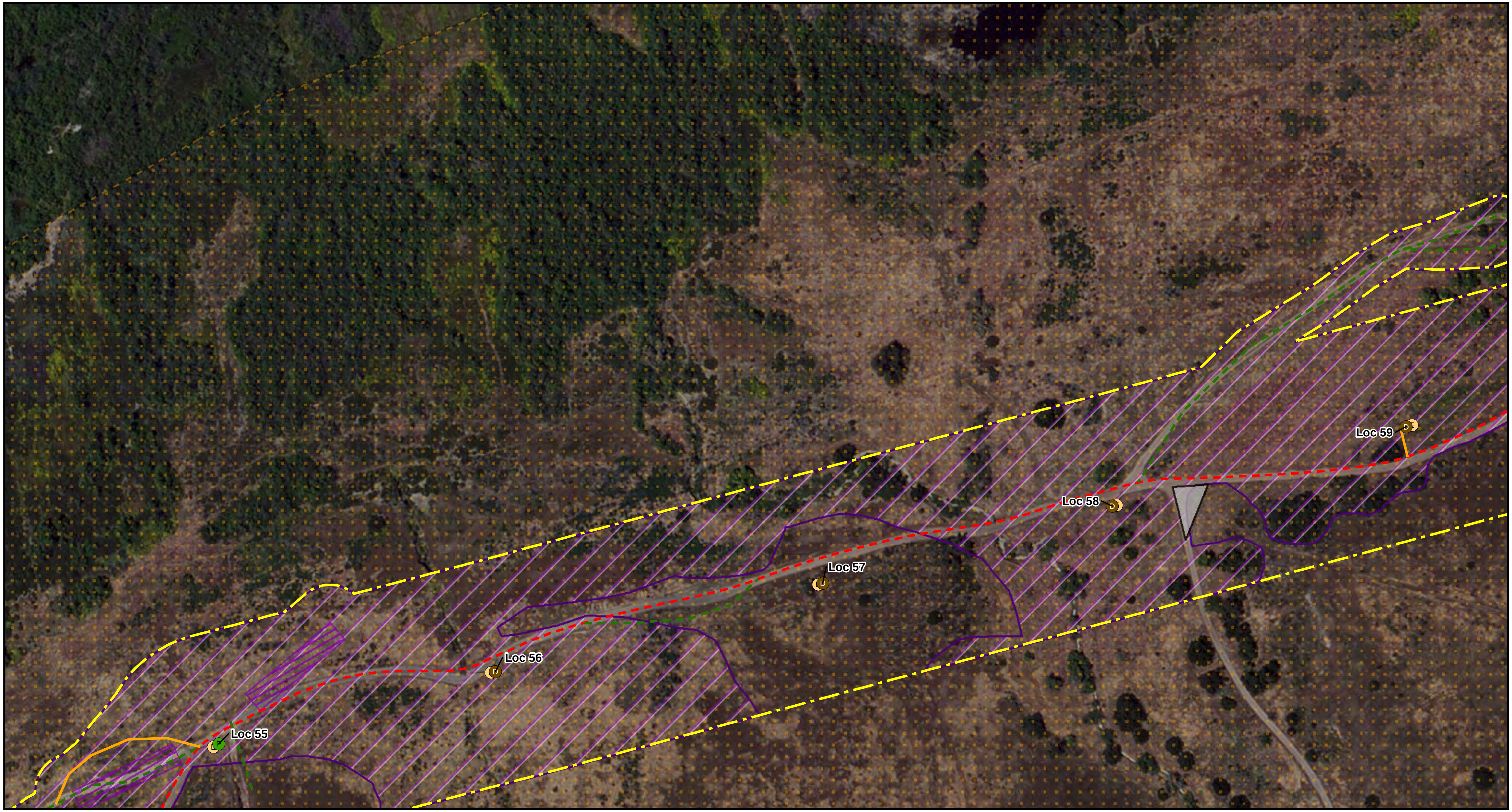

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓔ Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▬ Overland Travel
- ⬚ Survey Buffer
- ▨ String Site
- ■ Turnaround Area
- ⬚ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Page 12 of 30

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

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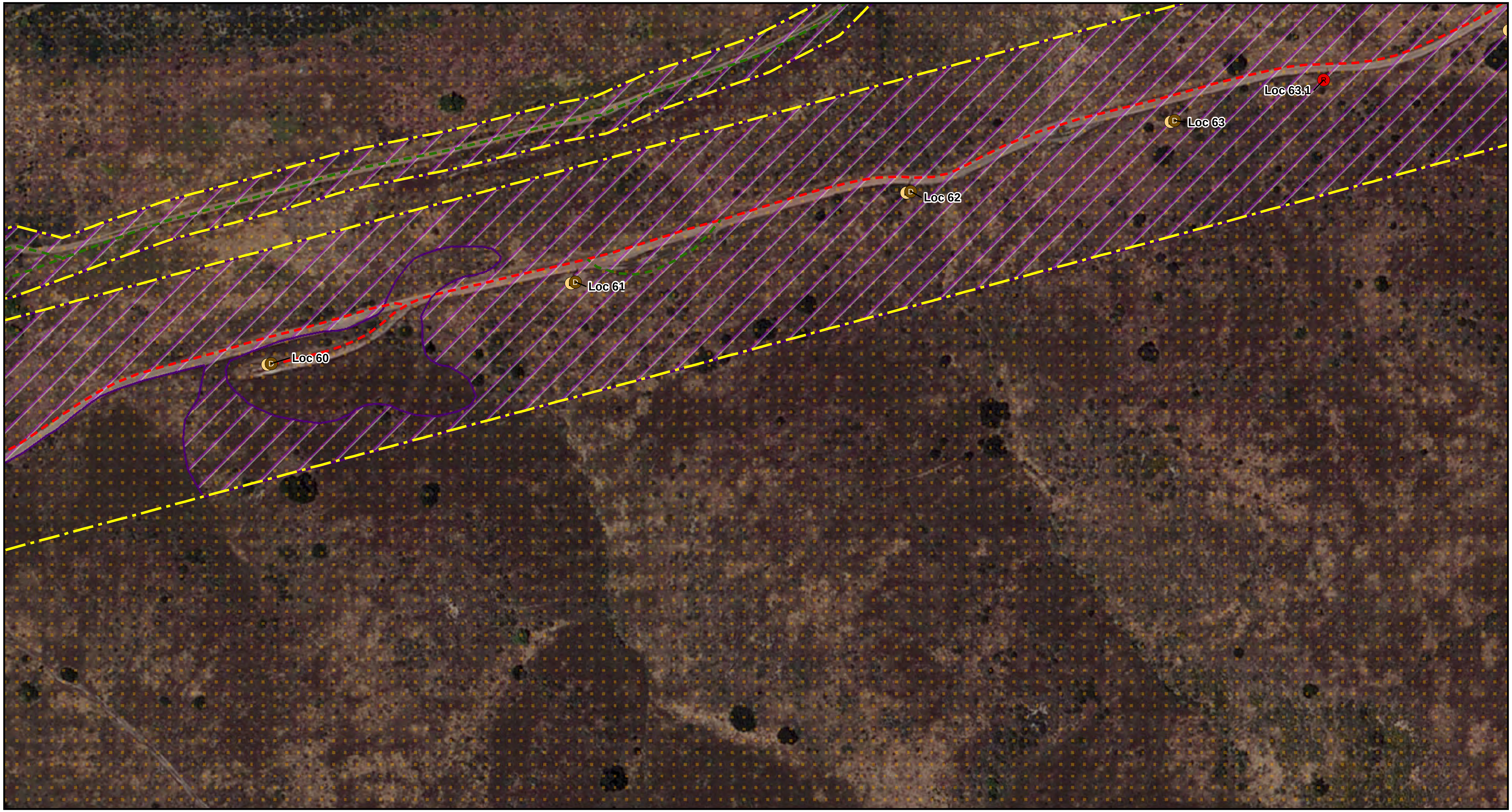

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ⬚ Survey Buffer
- ⬚ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

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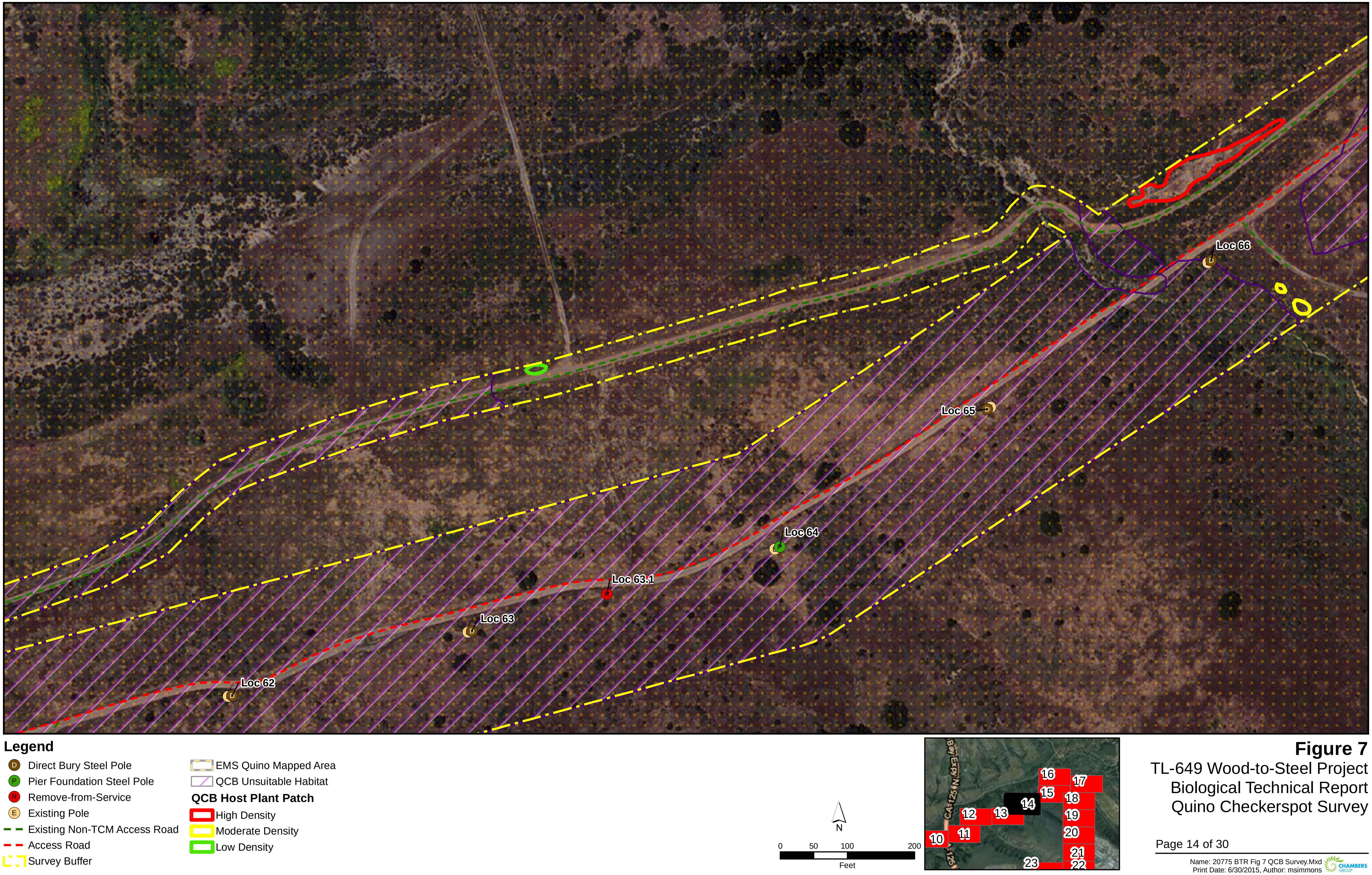

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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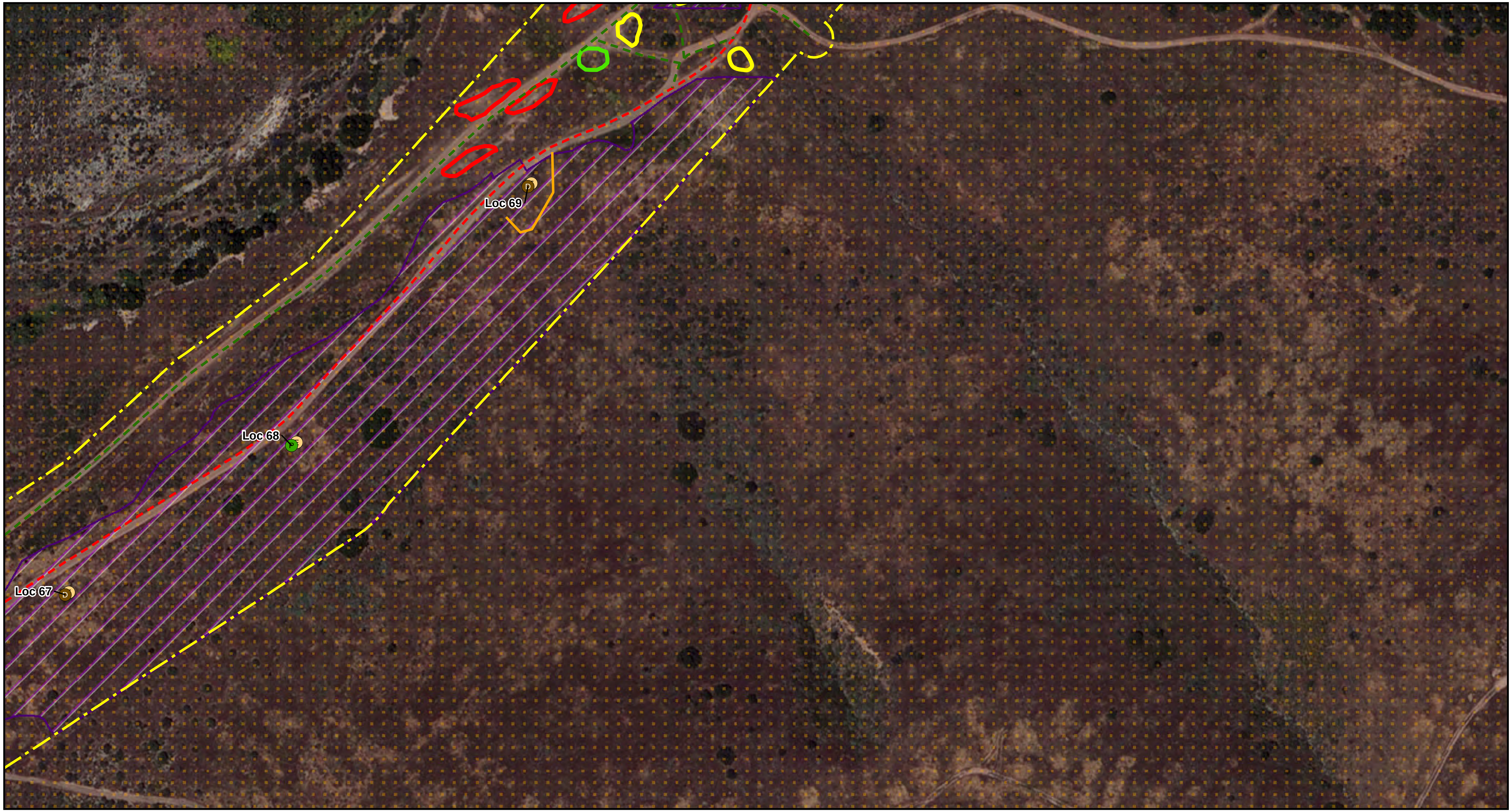
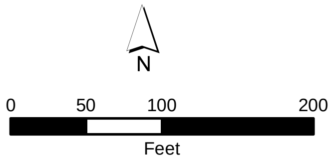


Legend

D Direct Bury Steel Pole
P Pier Foundation Steel Pole
E Existing Pole
- - Existing Non-TCM Access Road
- - Access Road
— Overland Travel
▭ Survey Buffer
▭ EMS Quino Mapped Area
▨ QCB Unsuitable Habitat

QCB Host Plant Patch

🟥 High Density
🟨 Moderate Density
🟩 Low Density



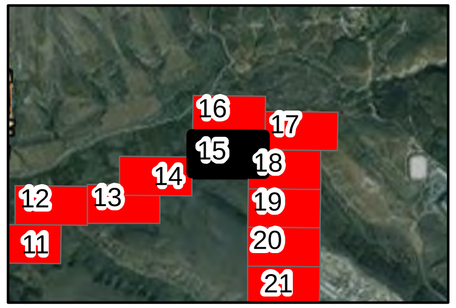


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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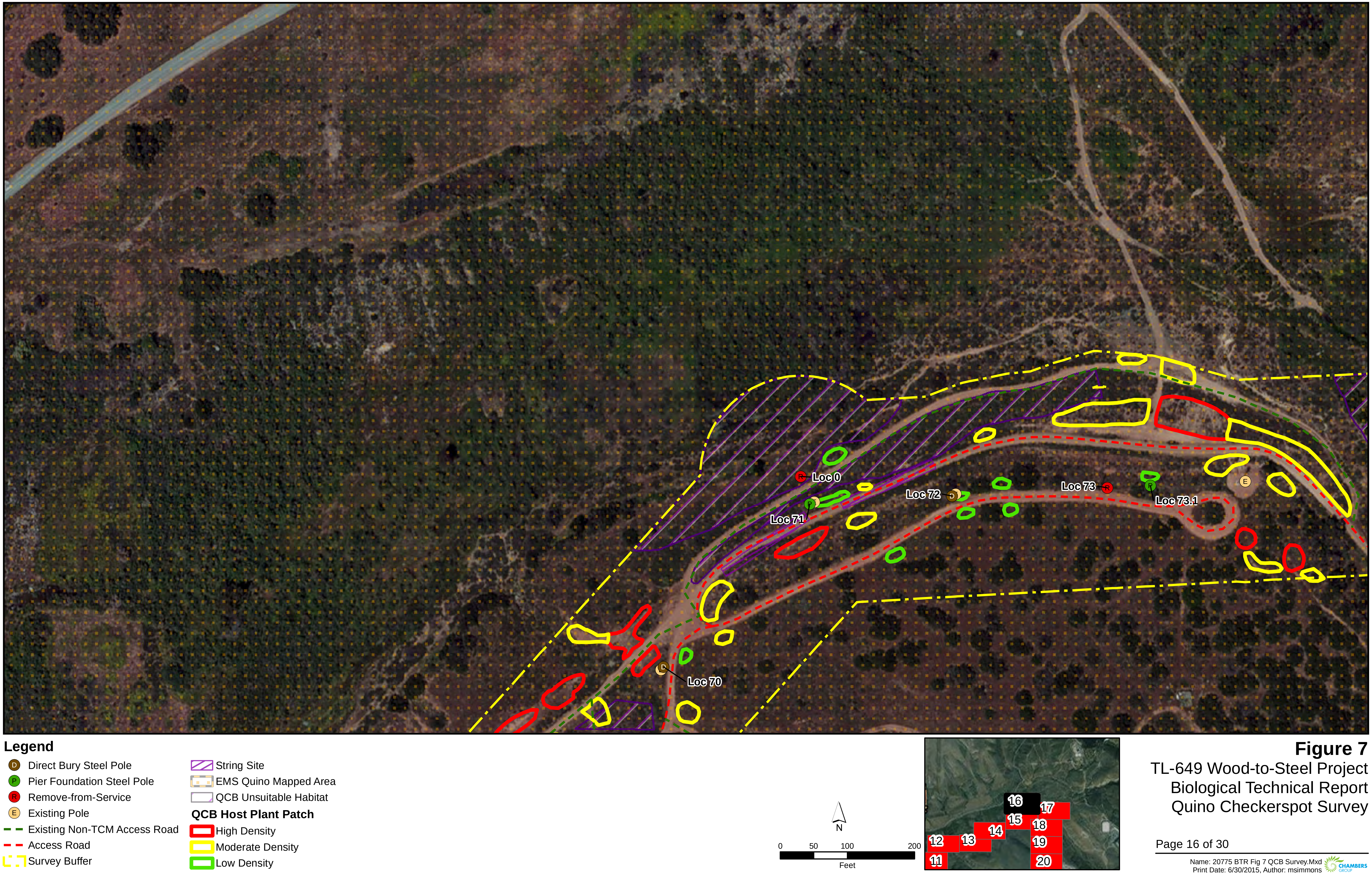

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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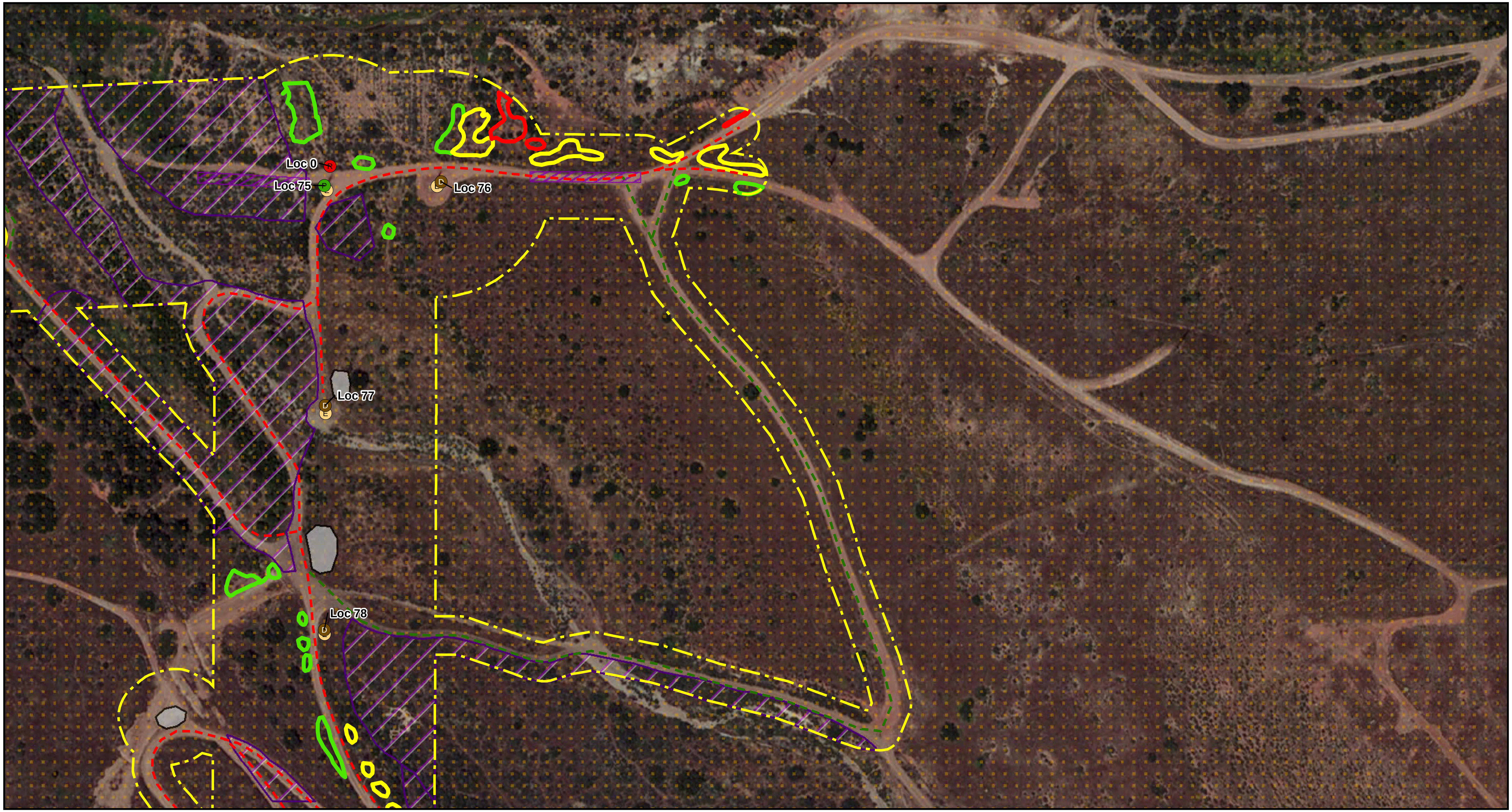

Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- ▨ Turnaround Area
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

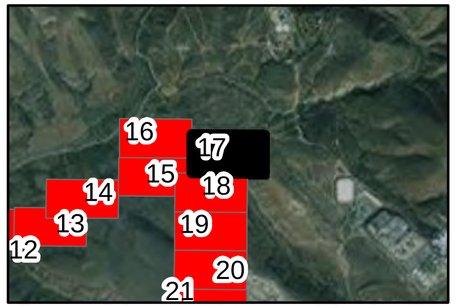

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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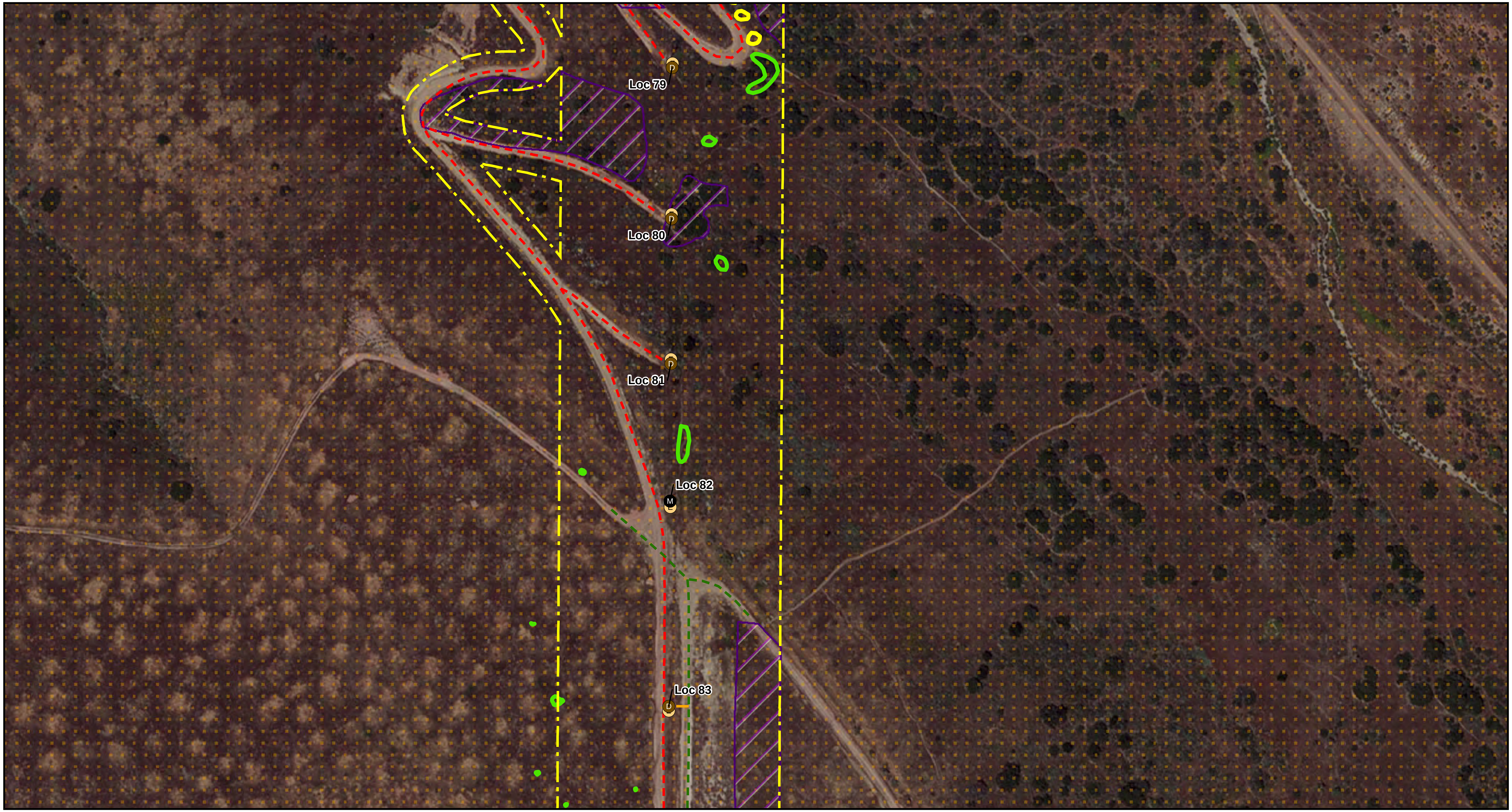
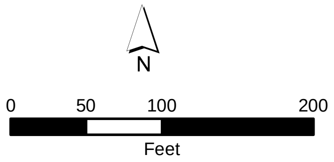


Legend

- D Direct Bury Steel Pole
- M Micro Pile Foundation Steel Pole
- E Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ― Overland Travel
- ⌜⌟ Survey Buffer
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟨 Moderate Density
- 🟩 Low Density



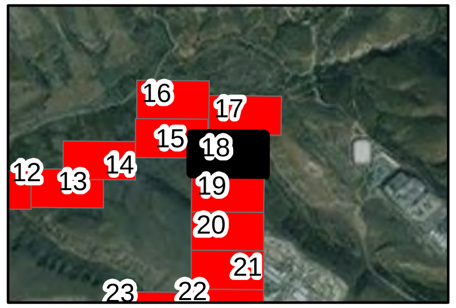


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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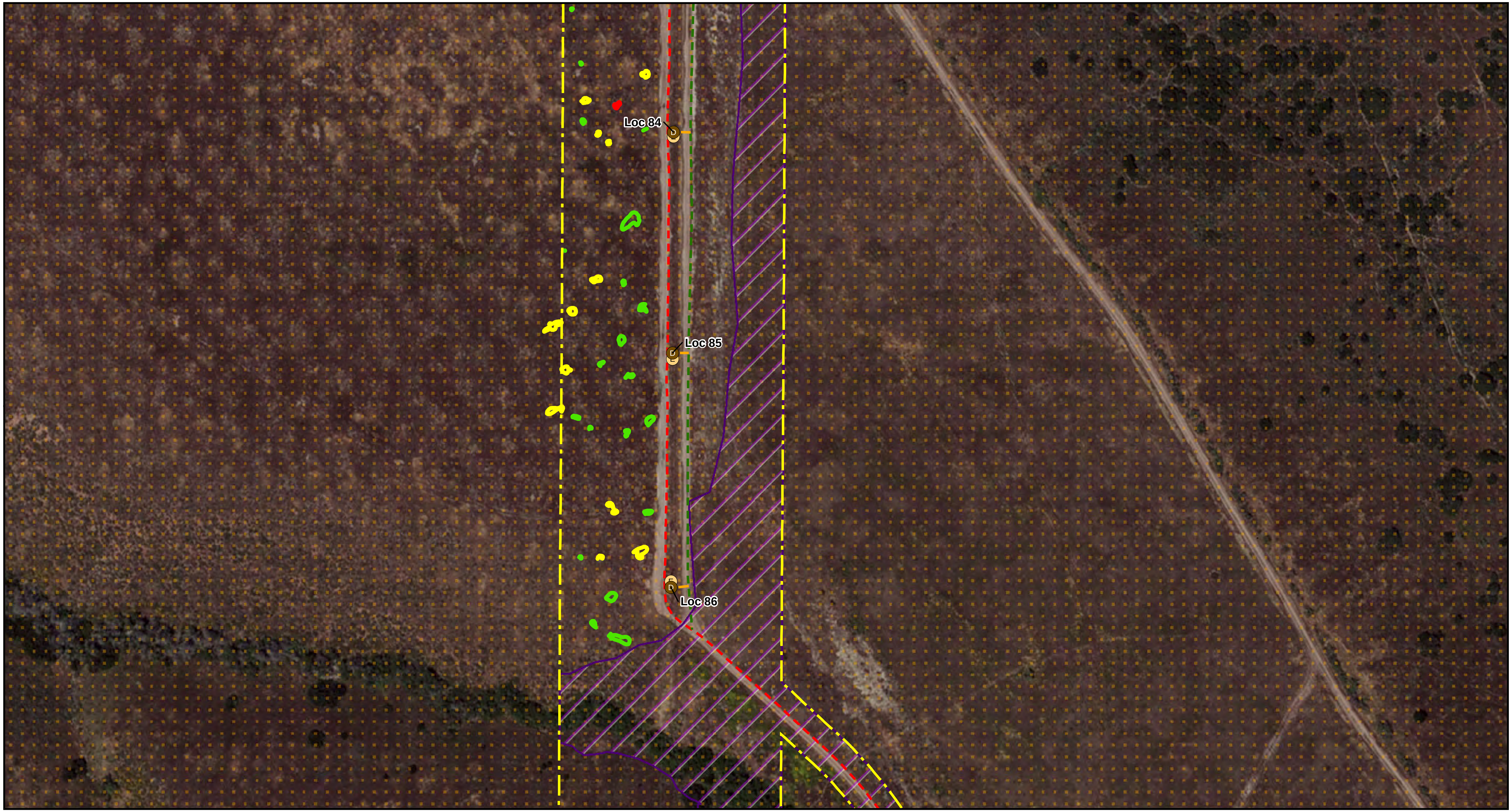

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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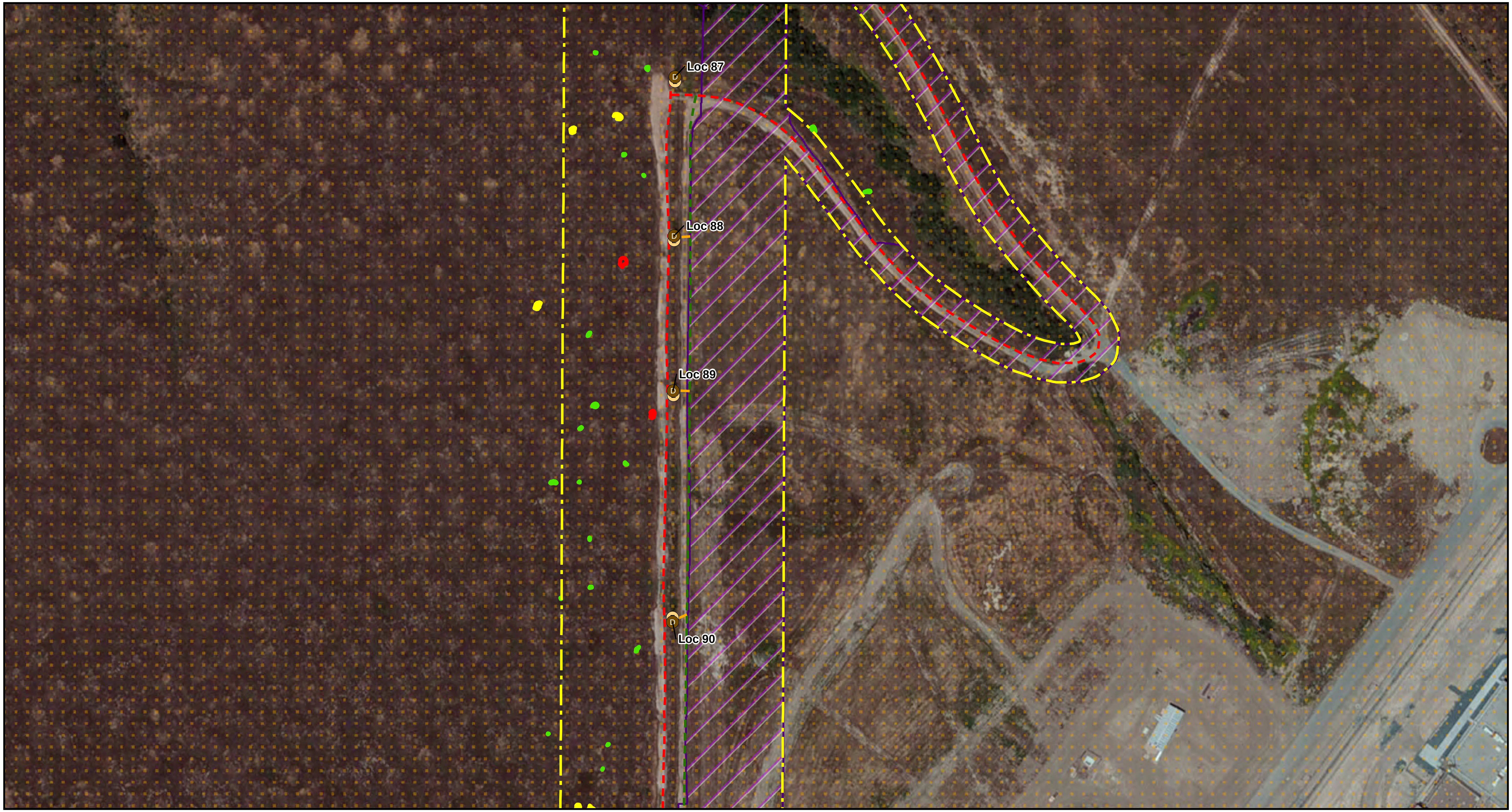

Legend

- D Direct Bury Steel Pole
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

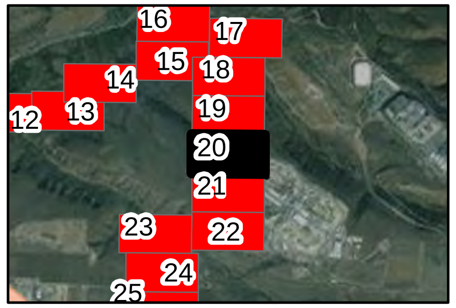

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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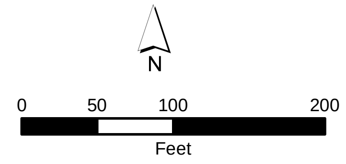
Legend

- Ⓓ Direct Bury Steel Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟨 Moderate Density
- 🟩 Low Density



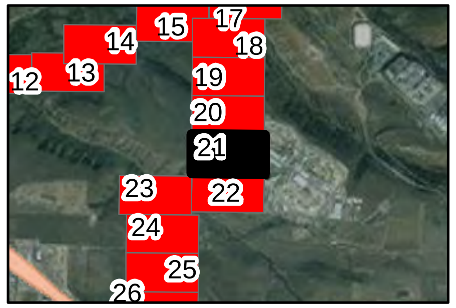


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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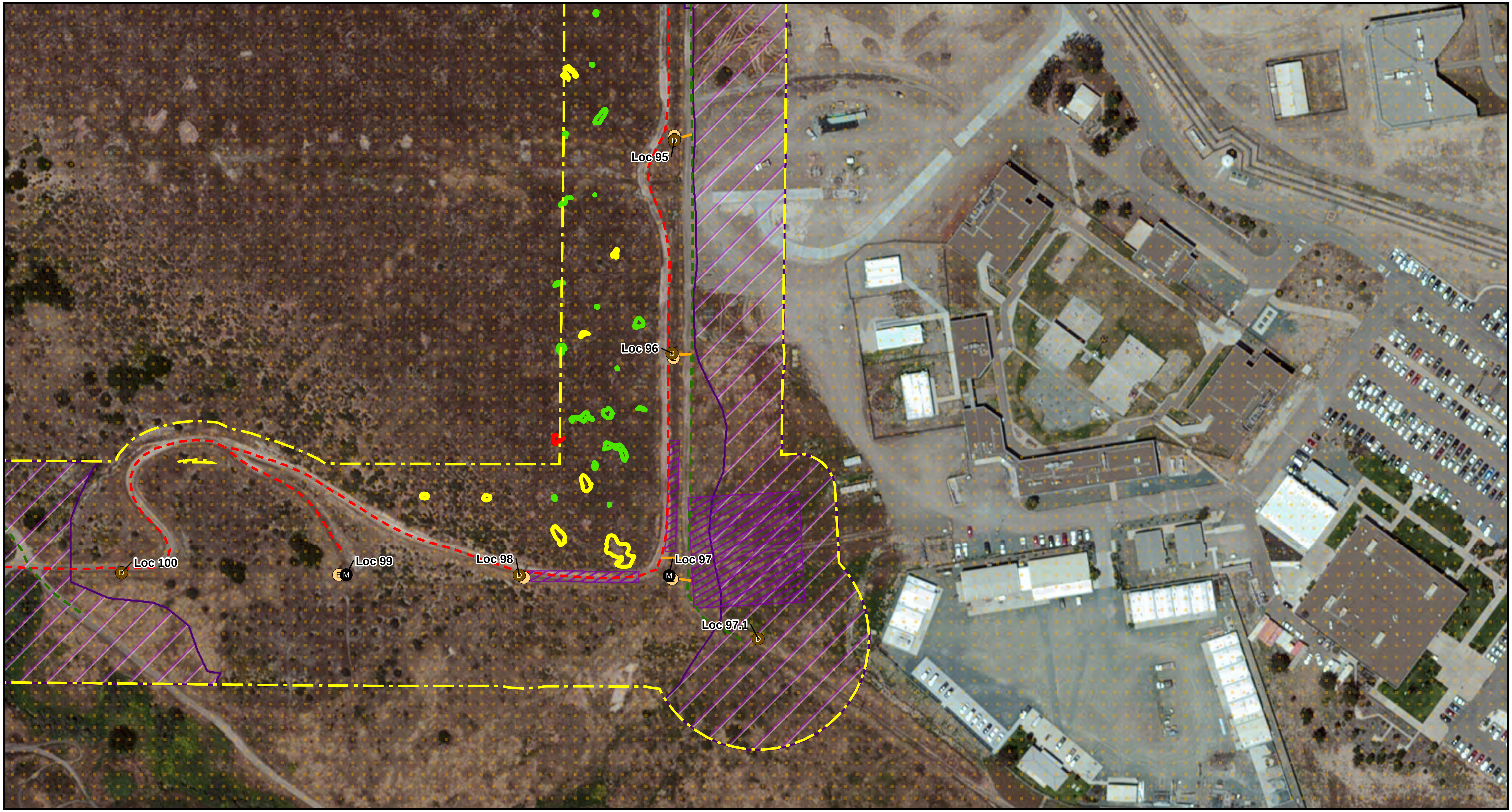
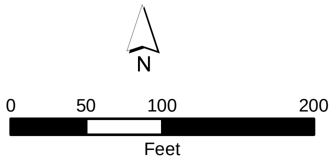


Legend

- D Direct Bury Steel Pole
- M Micro Pile Foundation Steel Pole
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- ▨ String Site
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density



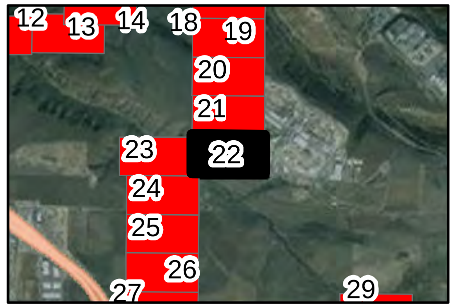


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

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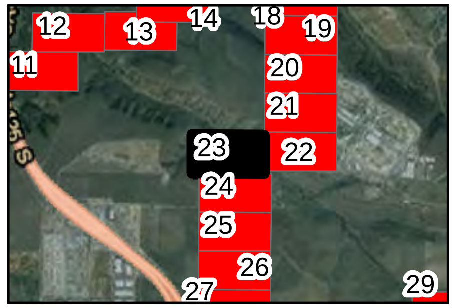
Legend

- D Direct Bury Steel Pole
- M Micro Pile Foundation Steel Pole
- E Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▭ Survey Buffer
- ▨ String Site
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



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TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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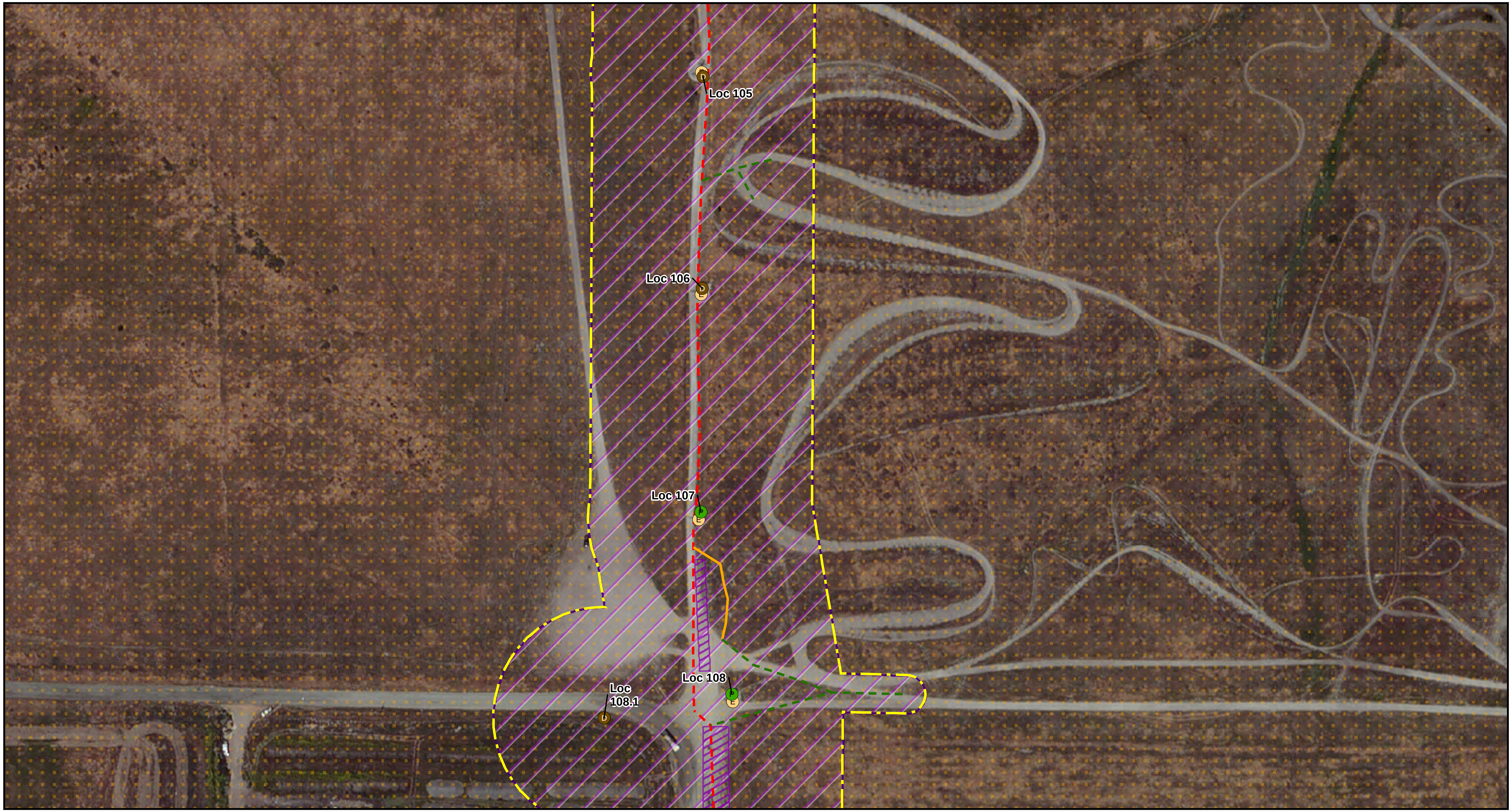
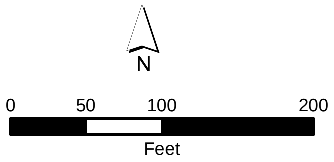


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ― Overland Travel
- ⌐ ¬ Survey Buffer
- ▨ String Site
- ▨ EMS Quino Mapped Area
- ☐ QCB Unsuitable Habitat



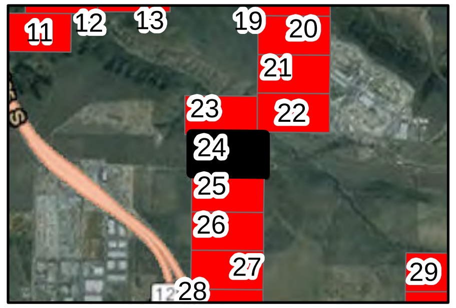


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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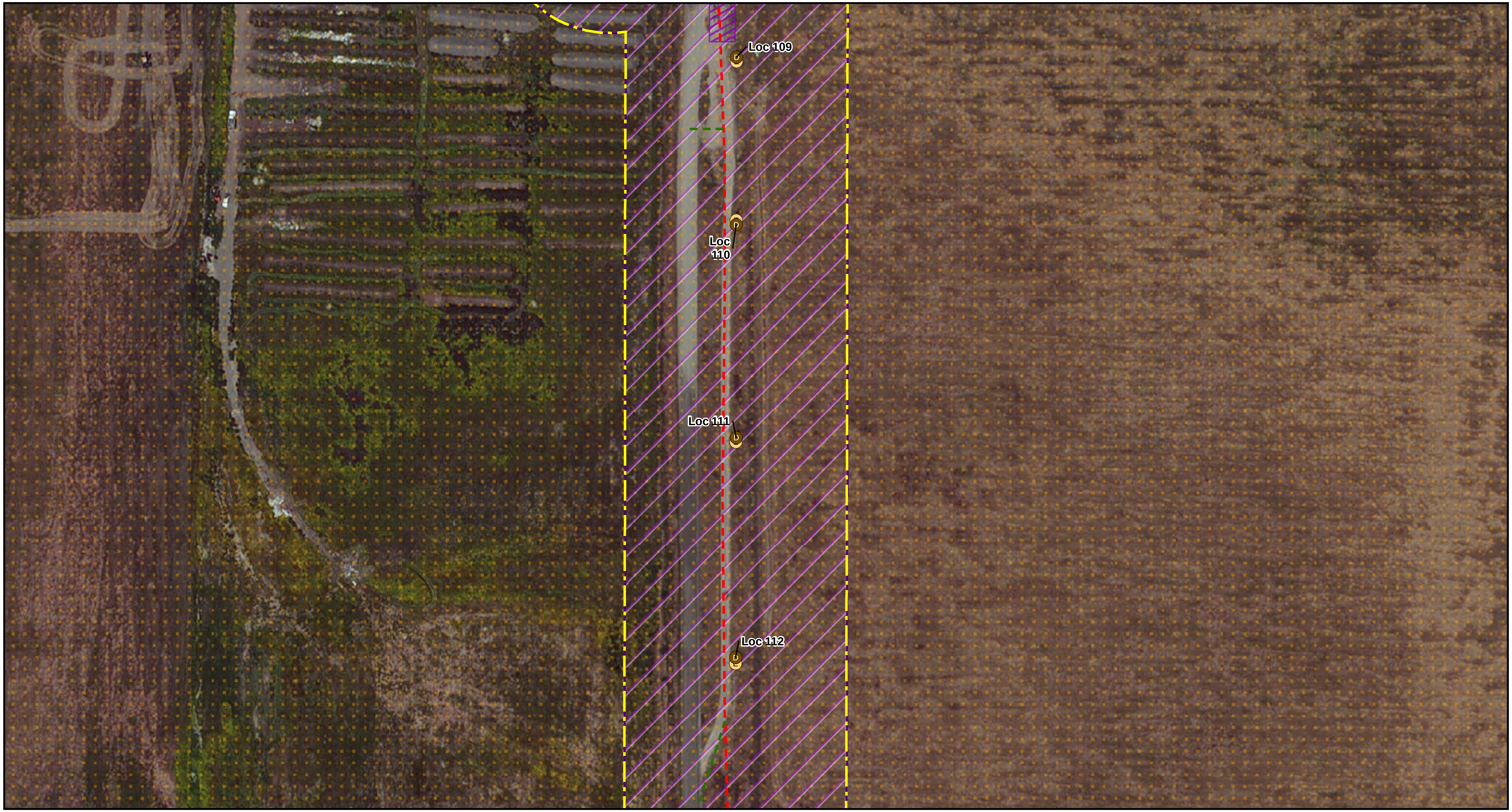
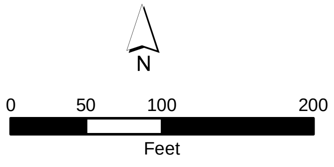


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



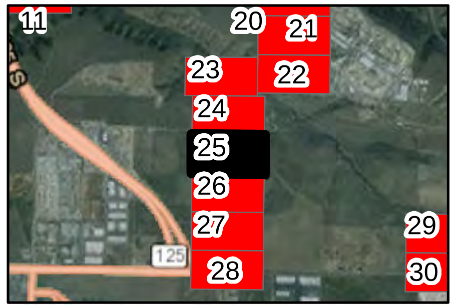


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Ⓓ Direct Bury Steel Pole
- ● Other Pole (NW)
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

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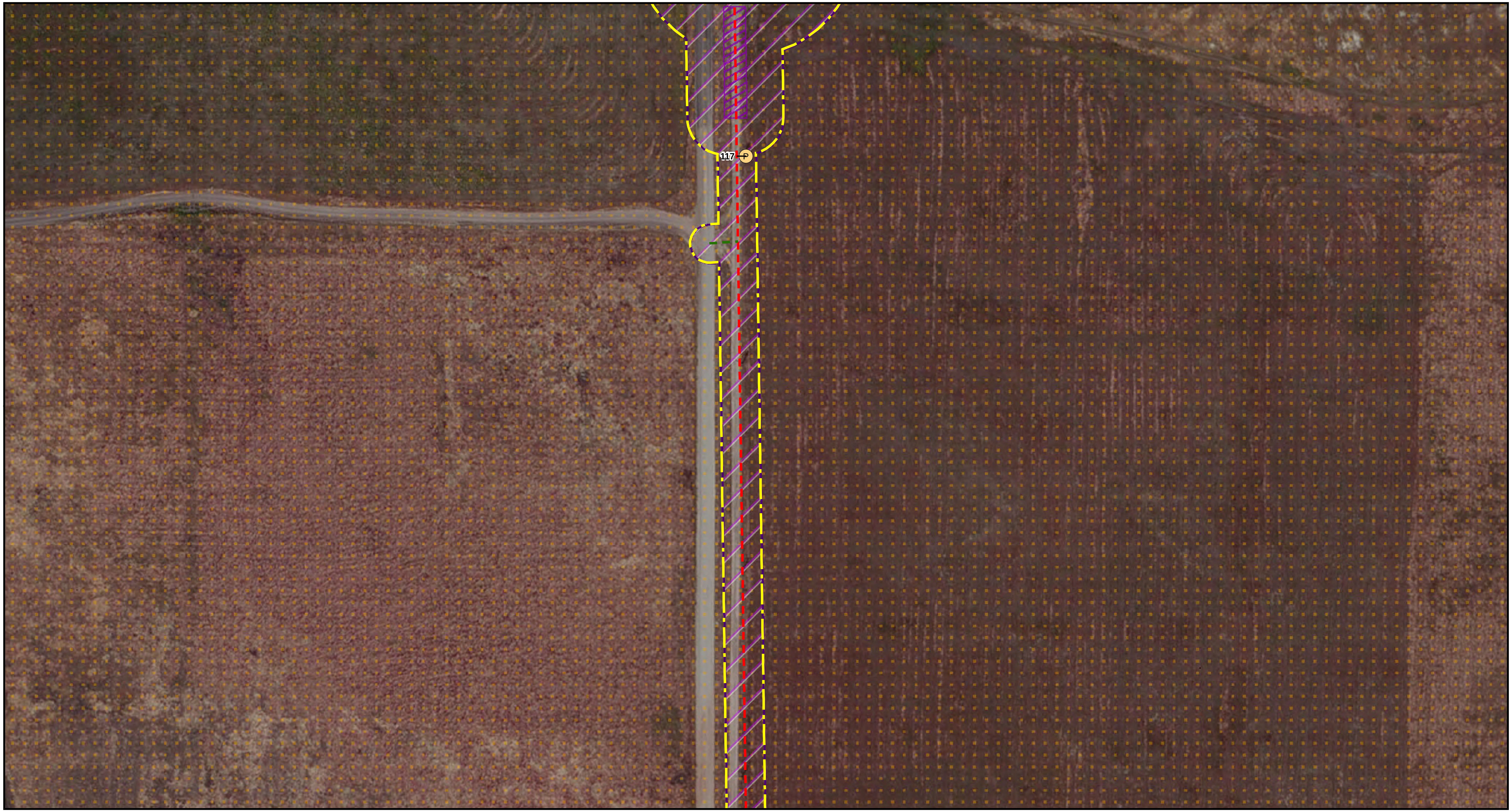


Legend

- - - Existing Non-TCM Access Road
- - - Access Road
▭ Survey Buffer
▨ String Site
▭ EMS Quino Mapped Area
▨ QCB Unsuitable Habitat

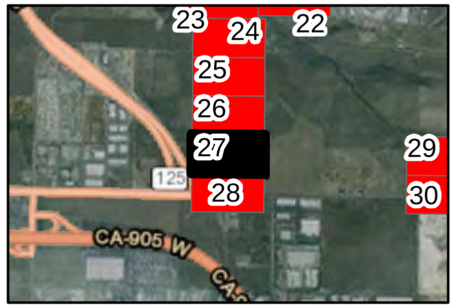


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- EMS Quino Mapped Area
- QCB Unsuitable Habitat

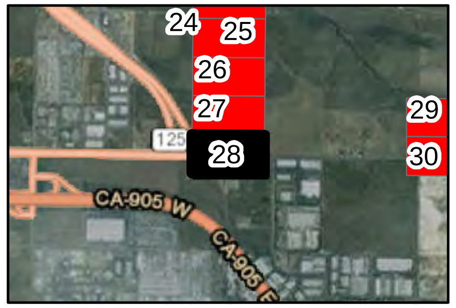


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- ▭ Survey Buffer
- ▭ Staging Yard
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

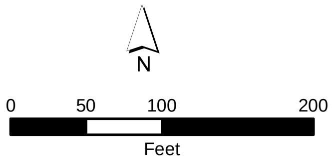


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

Legend

- ▭ Survey Buffer
- ▭ Staging Yard
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

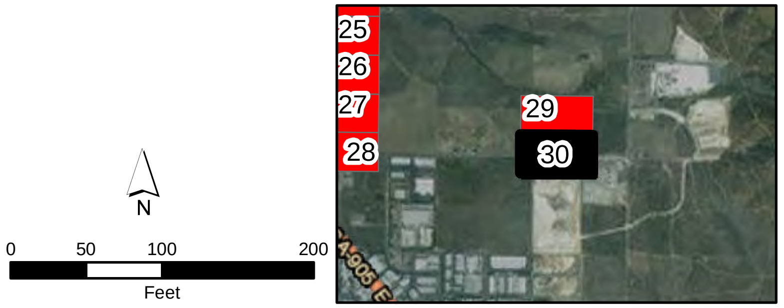
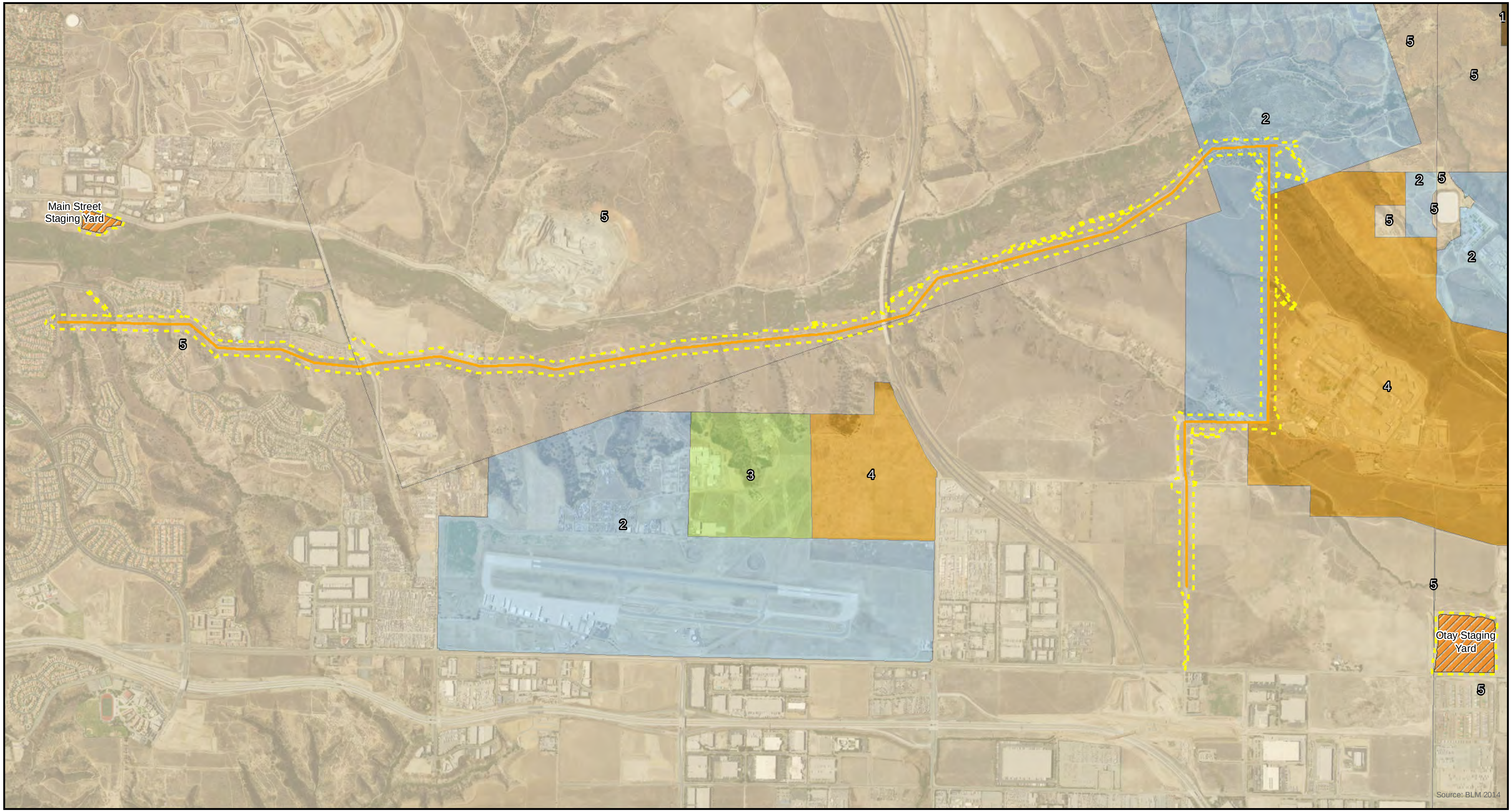


Figure 7

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons



Legend

— Transmission Centerline

- - Survey Corridor

Work Area Type Proposed

▨ Staging Yard

Land Management

■ 1. Bureau of Land Management

■ 2. Local Government

■ 3. Other Federal Agencies

■ 4. State Lands

■ 5. Private or Otherwise Not Specified

N

0 0.25 0.5 1

Miles

Figure 8

TL-649 Wood-to-Steel Project
Biological Technical Report
Land Management

Name: 20775 BTR Fig 8 Landownership.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Transmission Centerline
- ▨ Staging Yard
- Survey Corridor
- Quino Mapped Area
- San Diego County Parks
- 🟩 Multi-Habitat Planning Area
- Multiple Species Conservation Plan, South County Sub Regional Plan Area

Figure 9
TL-649 Wood-to-Steel Project
Biological Technical Report
Habitat Plan Areas

Name: 20775 BTR Fig 9 Mapped Plan Areas.Mxd
Print Date: 5/20/2015, Author: msimmons

APPENDIX B – PLANT SPECIES OBSERVED AND LOCATION DATA

Scientific Name	Common Name
LYCOPHYTES	
SELAGINELLACEAE	**Spike-Moss Family**
Selaginella bigelovii	Bigelow's spike-moss
Selaginella cinerascens	mesa spike-moss
FERNS	
POLYPODIACEAE	**POLYPODY FAMILY**
Polypodium californicum	California polypody
PTERIDACEAE	**BRAKE FAMILY**
Pellaea mucronata var. *mucronata*	Bird's foot cliff-brake
Pentagramma triangularis subsp. *triangularis*	California goldback fern
GYMNOSPERMS	
CUPRESSACEAE	**CYPRESS FAMILY**
*Cupressus sempervirens**	Italian cypress
Hesperocyparis forbesii	tecate cypress
EPHEDRACEAE	**EPHEDRA FAMILY**
Ephedra californica	desert tea
MAGNOLIIDS	
SAURURACEAE	**LIZARD'S-TAIL FAMILY**
Anemopsis californica	yerba mansa
ANGIOSPERMS (EUDICOTS)	
ADOXACEAE	**MUSKROOT FAMILY**
Sambucus nigra subsp. *caerulea*	blue elderberry
AIZOACEAE	**FIG-MARIGOLD FAMILY**
*Aptenia cordifolia**	baby sun rose
*Carpobrotus edulis**	hottentot-fig
*Mesembryanthemum crystallinum**	crystalline iceplant
*Mesembryanthemum nodiflorum**	slender-leaved iceplant
Sesuvium verrucosum	western sea-purslane
AMARANTHACEAE	**AMARANTH FAMILY**
*Amaranthus albus**	tumbling pigweed
ANACARDIACEAE	**SUMAC OR CASHEW FAMILY**
Malosma laurina	laurel sumac
Rhus integrifolia	lemonadeberry
Rhus ovata	sugar bush
*Schinus molle**	Peruvian pepper tree
Schinus terebinthifolius+	Brazilian pepper tree
Toxicodendron diversilobum	poison oak
APIACEAE	**CARROT FAMILY**
Apiastrum angustifolium	wild celery
*Apium graveolens**	celery

Daucus pusillus	rattlesnake weed
Eryngium aristulatum* var. *parishii	**San Diego button-celery**
*Foeniculum vulgare**	fennel
Lomatium dasycarpum	woolly-fruited lomatium
Lomatium lucidum	shiny lomatium
Sanicula arguta	sharp-toothed sanicle
Sanicula bipinnatifida	purple sanicle
Sanicula crassicaulis	Pacific sanicle
APOCYNACEAE	**DOGBANE FAMILY**
Carissa macrocarpa+	natal plum
Funastrum cynanchoides var. *hartwegii*	climbing milkweed
Nerium oleander+	oleander
ASTERACEAE	**SUNFLOWER FAMILY**
Achillea millefolium	California yarrow
Ambrosia acanthicarpa	annual bur-sage
Ambrosia chenopodiifolia	San Diego bur sage
Ambrosia confertiflora	weak-leaved burweed
Ambrosia monogyra	**singlewhorl burrobush**
Ambrosia psilostachya	western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Artemisia dracunculus	tarragon
Artemisia palmeri	**Palmer's sagewort**
Baccharis pilularis	coyote brush
Baccharis salicifolia subsp. *salicifolia*	mule fat
Baccharis sarothroides	broom baccharis
Bahiopsis laciniata	San Diego County viguiera
Bidens pilosa	common beggar-ticks
Brickellia californica	California brickellbush
Carduus pycnocephalus subsp. *pycnocephalus**	Italian thistle
*Centaurea melitensis**	tocalote
*Cirsium vulgare**	bull thistle
Corethrogyne filaginifolia	sand-aster
*Cotula australis**	Australian brass-buttons
*Cotula coronopifolia**	brass-buttons
*Cynara cardunculus**	cardoon
Deinandra conjugens	Otay tarplant
Deinandra fasciculata	fascicled tarweed
*Dittrichia graveolens**	stinkwort
Encelia californica	California bush sunflower
Ericameria brachylepis	boundary goldenbush

*Erigeron bonariensis**	flax-leaved horseweed
Erigeron canadensis	horseweed
Eriophyllum confertiflorum var. *confertiflorum*	long-stem golden-yarrow
*Gazania linearis**	treasure flower
*Glebionis coronaria**	garland daisy
Grindelia camporum	gum-plant
Gutierrezia californica	california matchweed
*Hedypnois cretica**	crete hedypnois
*Helminthotheca echioides**	bristly ox-tongue
*Hesperevax caulescens**	hogwallow starfish
Heterotheca grandiflora	telegraph weed
Holocarpha virgata	**virgate tarweed**
*Hypochaeris glabra**	smooth cat's-ear
*Hypochaeris radicata**	hairy cat's-ear
Isocoma menziesii var. decumbens	**decumbent goldenbush**
Isocoma menziesii var. *menziesii*	spreading goldenbush
Isocoma menziesii var. *vernonioides*	Coastal goldenbush
Iva hayesiana	San Diego marsh-elder
*Lactuca serriola**	prickly lettuce
Laennecia coulteri	Coulter's fleabane
Lasthenia gracilis	common goldfields
Logfia filaginoides	California fluffweed
*Logfia gallica**	narrow-leaf filago
*Matricaria discoidea**	common pineapple-weed
*Oncosiphon piluliferum**	globe chamomile
Osmadenia tenella	southern rosinweed
Pluchea odorata var. *odorata*	salt marsh fleabane
Pseudognaphalium biolettii	bicolored cudweed
Pseudognaphalium californicum	California everlasting
*Pseudognaphalium luteoalbum**	everlasting cudweed
Pseudognaphalium stramineum	cotton-batting plant
Psilocarphus brevissimus	woolly marbles
*Senecio vulgaris**	common groundsel
*Silybum marianum**	milk thistle
Sonchus asper subsp. *asper**	prickly sow thistle
*Sonchus oleraceus**	common sow thistle
Stylocline gnaphaloides	everlasting nest straw
*Taraxacum officinale**	common dandelion
Uropappus lindleyi	silver puff
Xanthium strumarium	cocklebur
BIGNONIACEAE	**BIGNONIA FAMILY**

Jacaranda mimosifolia+	jacaranda
Spathodea campanulata+	fountian tree
Tecomaria capensis+	Cape honeysuckle
BORAGINACEAE	**BORAGE FAMILY**
Amsinckia menziesii	common fiddleneck
Cryptantha clevelandii subsp. clevelandii	Cleveland's cryptantha
*Echium candicans**	pride of Madeira
Eriodictyon trichocalyx var. *trichocalyx*	shiny-leaf yerba santa
Eucrypta chrysanthemifolia var. *chrysanthemifolia*	common eucrypta
Harpagonella palmeri	**Palmer's grappling hook**
Heliotropium curassavicum var. *oculatum*	salt heliotrope
Pectocarya linearis subsp. *ferocula*	slender pectocarya
Phacelia cicutaria var. *hispida*	caterpillar phacelia
Phacelia distans	wild heliotrope
Plagiobothrys acanthocarpus	adobe allocarya
Plagiobothrys arizonicus	Arizona popcorn flower
Plagiobothrys collinus var. *gracilis*	San Diego popcornflower
BRASSICACEAE	**MUSTARD FAMILY**
*Brassica nigra**	black mustard
*Brassica tournefortii**	sahara mustard
Brickellia californica	Calfornia brickel bush
*Hirschfeldia incana**	shortpod mustard
Lepidium didymum	wart cress
*Lepidium latifolium**	peppergrass
Lepidium nitidum	shining peppergrass
*Lobularia maritima**	sweet-alyssum
*Raphanus sativus**	radish
*Sisymbrium altissimum**	tumble mustard
*Sisymbrium irio**	London rocket
*Sisymbrium orientale**	oriental hedge mustard
CACTACEAE	**CACTUS FAMILY**
Bergerocactus emoryi	**golden-spined cereus**
Cylindropuntia prolifera	coast cholla
Ferocactus viridescens	**San Diego barrel cactus**
Mammillaria dioica	fish-hook cactus
Opuntia littoralis	coastal prickly pear
Opuntia oricola	pancake prickly pear
CAPRIFOLIACEAE	**HONEYSUCKLE FAMILY**
Lonicera subspicata var. *denudata*	Johnston's honeysuckle
CARYOPHYLLACEAE	**PINK FAMILY**
Cardionema ramosissimum	sand mat

*Silene gallica**	common catchfly
*Spergularia bocconi**	Boccone's sandspurrey
Spergularia marina	saltmarsh sandspurrey
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
Atriplex canescens	four-wing saltbush
Atriplex lentiformis	big saltbush
Atriplex pacifica	**south coast saltbush**
*Atriplex semibaccata**	Australian saltbush
*Atriplex suberecta**	peregrine saltbush
Beta vulgaris subsp. *maritima**	sea beet
*Chenopodium album**	lamb's quarters
Chenopodium californicum	California goosefoot
*Salsola australis**	Russian-thistle
CLEOMACEAE	**SPIDERFLOWER FAMILY**
Peritoma arborea var. arborea	bladderpod
CONVOLVULACEAE	**MORNING-GLORY FAMILY**
Calystegia macrostegia subsp. *tenuifolia*	San diego morning-glory
*Convolvulus arvensis**	bindweed
Convolvulus simulans	**small-flower bindweed**
Cuscuta californica var. *californica*	chaparral dodder
CRASSULACEAE	**STONECROP FAMILY**
*Crassula argentea**	jade plant
Crassula connata	pygmy-weed
Dudleya edulis	ladies-fingers
Dudleya pulverulenta	chalk dudleya
Dudleya veriegata	variegated dudleya
CUCURBITACEAE	**GOURD FAMILY**
Cucurbita foetidissima	calabazilla
Marah macrocarpa	wild cucumber
ERICACEAE	**HEATH FAMILY**
Arctostaphylos glandulosa	Eastwood's manzanita
Arctostaphylos otayensis	**Otay manzanita**
EUPHORBIACEAE	**SPURGE FAMILY**
Euphorbia albomarginata	rattlesnake weed
*Euphorbia maculata**	spotted spurge
Euphorbia polycarpa	golondrina
*Euphorbia serpens**	creeping spurge
Croton setiger	turkey mullien
Euphorbia misera	**cliff spurge**
*Euphorbia peplus**	petty spurge
Euphorbia serpens.*	matted sandmat

*Ricinus communis**	castor-bean
FABACEAE	**LEGUME FAMILY**
*Acacia redolens**	desert carpet
Acacia saligna*	golden wreath wattle
Acmispon americanus var. *americanus*	Spanish clover
Acmispon glaber var. *brevialatus*	short-wing deerweed
Acmispon glaber var. *glaber*	coastal deerweed
Acmispon maritimus var. *maritimus*	alkali lotus
Acmispon micranthus	San Diego lotus
Acmispon strigosus	strigose lotus
Astragalus trichopodus var. *lonchus*	ocean locoweed
Lupinus concinnus	Bajada lupine
Lupinus microcarpus var. *densiflorus*	chick lupine
*Medicago polymorpha**	bur clover
*Melilotus albus**	white sweetclover
*Melilotus indicus**	Indian sweetclover
Prosopis glandulosa var. *torreyana*	honey mesquite
Prosopis velutina†	velvet mesquite
*Trifolium hirtum**	rose clover
Vachellia farnesiana var. *farnesiana*†	sweet acacia
Vicia villosa subsp. *villosa**	winter vetch
FAGACEAE	**OAK FAMILY**
Quercus agrifolia var. *agrifolia*+	coast live oak, encina
Quercus x acutidens	
GERANIACEAE	**GERANIUM FAMILY**
*Erodium botrys**	broad-lobed filaree
*Erodium brachycarpum**	long-beaked filaree
*Erodium cicutarium**	red-stemmed filaree
*Erodium malacoides**	Mediterranean stork's-bill
*Erodium moschatum**	white-stemmed filaree
Pelargonium sp.+	garden geranium
GROSSULARIACEAE	**GOOSEBERRY FAMILY**
Ribes speciosum	fuchsia-flowered gooseberry
LAMIACEAE	**MINT FAMILY**
*Marrubium vulgare**	horehound
Salvia apiana	white sage
Salvia mellifera	black sage
Salvia munzii	**Munz's sage**
Stachys rigida var. quercetorum	hillside hedge-nettle
Trichostema lanceolatum	vinegar weed
MALVACEAE	**MALLOW FAMILY**

Malacothamnus densiflorus	many-flowered mallow
*Malva nicaeensis**	bull mallow
*Malva parviflora**	cheeseweed
Sidalcea sparsifolia	checker mallow
MONTIACEAE	**MINER'S LETTUCE FAMILY**
Calandrinia ciliata	red maids
Claytonia parviflora subsp. *parviflora*	Utah Miner's-lettuce
MORACEAE	**MULBERRY FAMILY**
Ficus sp.+	fig
*Anagallis arvensis**	scarlet pimpernel
MYRTACEAE	**MYRTLE FAMILY**
Callistemon sp.+	bottlebrush tree
*Eucalyptus camaldulensis**	red gum
*Eucalyptus pulverulenta**	silver dollar eucalyptus
Lophostemon confertus+	brush box
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**
Bougainvillea sp.†	bougainvillea
Mirabilis laevis var. *crassifolia*	California wishbone bush
OLEACEAE	**OLIVE FAMILY**
Fraxinus sp.+	ash
*Olea europaea**	olive
ONAGRACEAE	**EVENING PRIMROSE FAMILY**
Epilobium canum subsp. *canum*	California fuchsia, zauschneria
Epilobium ciliatum subsp. *ciliatum*	epilobium cilatum
*Oenothera sinuosa**	wavy-leaf gaura
OROBANCHACEAE	**BROOM-RAPE FAMILY**
Castilleja affinis subsp. *affinis*	coast paintbrush
Castilleja subinclusa subsp. *subinclusa*	long-leaf indian paintbrush
OXALIDACEAE	**OXALIS FAMILY**
Oxalis californica	California wood-sorrel
*Oxalis pes-caprae**	Bermuda buttercup
PAPAVERACEAE	**POPPY FAMILY**
Eschscholzia californica	California poppy
Romneya trichocalyx	hairy matilija poppy
Mimulus aurantiacus var. pubescens	southern sticky monkey-flower
Mimulus aurantiacus var. puniceus	red monkey-flower
PHYTOLACCACEAE	**POKEWEED FAMILY**
Phytolacca isosandra†	pokeweed
PITTOSPORACEAE	**TOBIRA FAMILY**
Pittosporum sp.+	pittosporum
PLANTAGINACEAE	**PLANTAIN FAMILY**

*Kickxia elatine**	fluellin
Plantago elongata	prairie plantain
Plantago erecta	western plantain
Plantago rhodosperma	redseed plantain
*Plantago virginica**	dwarf plantain
PLATANACEAE	**SYCAMORE FAMILY**
Platanus racemosa	western sycamore
PLUMBAGINACEAE	**LEADWORT FAMILY**
Plumbago auriculata+	cape plumbago
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum elongatum var. *elongatum*	long-stemmed buckwheat
Eriogonum fasciculatum var. *fasciculatum*	coastal California buckwheat
Eriogonum fasciculatum var. *polifolium*	Mojave desert California buckwheat
Polygonum aviculare subsp. *aviculare**	common knotweed
Pterostegia drymarioides	California thread-stem
*Rumex conglomeratus**	dock
*Rumex crispus**	curly dock
PORTULACACEAE	**PURSLANE FAMILY**
*Portulaca oleracea**	common purslane
PUNICACEAE	**POMEGRANATE FAMILY**
Punica granatum†	Pomegranate
RANUNCULACEAE	**BUTTERCUP FAMILY**
Ranunculus californicus var. *californicus*	California buttercup
RHAMNACEAE	**BUCKTHORN FAMILY**
Adolphia californica	**California adolphia**
Ceanothus otayensis	**Otay Mountain ceanothus**
Ceanothus tomentosus	woolly-leaved ceanothus
Rhamnus crocea	spiny redberry
ROSACEAE	**ROSE FAMILY**
Adenostoma fasciculatum	chamise
Heteromeles arbutifolia	toyon
Prunus ilicifolia	holly-leaf cherry
Prunus sp.†	cherry
Pyracantha sp. +	firethorn
Pyrus sp.†	pear
Rosa minutifolia	**small-leaved rose**
Rosa sp.+	ornamental rose
RUBIACEAE	**MADDER FAMILY**
Galium angustifolium subsp. *angustifolium*	narrow-leaf bedstraw
Galium aparine	goose grass
*Galium parisiense**	wall bedstraw

SALICACEAE	**WILLOW FAMILY**
Populus fremontii subsp. *fremontii*	Fremont cottonwood
Salix exigua	narrow-leaved willow
Salix gooddingii	black willow
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
SAPINDACEAE	**SOAPBERRY FAMILY**
Dodonaea viscosa var. *purpurea* +	hop bush
SCROPHULARIACEAE	**FIGWORT FAMILY**
Myoporum batae+	myoporum
Myoporum laetum +	myoporum
SIMMONDSIACEAE	**JOJOBA FAMILY**
Simmondsia chinensis	jojoba, goatnut
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii	jimson weed
Lycium andersonii	Anderson's wolfberry
*Nicotiana glauca**	tree tobacco
Solanum douglasii	Douglas' nightshade
*Solanum nigrum**	black nightshade
TAMARICACEAE	**TAMARISK FAMILY**
*Tamarix ramosissima**	Mediterranean tamarisk
URTICACEAE	**NETTLE FAMILY**
Hesperocnide tenella	western nettle
Parietaria hespera var. *hespera*	western pellitory
Urtica dioica subsp. holosericea	stinging nettle
*Urtica urens**	dwarf nettle
VERBENACEAE	**VERVAIN FAMILY**
Lantana camara+	common lantana
Lantana montevidensis+	trailing lantana
Verbena menthifolia	mint-leaved verbena
VIOLACEAE	**VIOLET FAMILY**
Viola pedunculata	johnny-jump-up
ZYGOPHYLLACEAE	**CALTROP FAMILY**
Fagonia laevis	California fagonia
ANGIOSPERMS (MONOCOTS)	
AGAVACEAE	**AGAVE FAMILY**
Agave americana†	century plant
Agave attenuata†	agave
Chlorogalum parviflorum	small-flowered amole
Hesperoyucca whipplei	Our Lord's candle
Phormium sp.+	New Zealand Flax

Yucca schidigera	Mojave yucca
ALLIACEAE	**ONION FAMILY**
Allium praecox	early onion
ARECACEAE	**PALM FAMILY**
Chamaerops humilis+	european fan palm
*Phoenix canariensis**	Canary Island date palm
Syagrus romanzoffiana+	Queen palm
Washingtonia robusta†	Mexican fan palm
ASPHODELACEAE	**ASPHODEL FAMILY**
Aloe sp.+	aloe
*Asphodelus fistulosus**	hollow-stem asphodel
CYPERACEAE	**SEDGE FAMILY**
Eleocharis montevidensis	slender creeping spike-rush
Schoenoplectus americanus	winged three-square
Schoenoplectus californicus	California bulrush
IRIDACEAE	**IRIS FAMILY**
Iris sp.+	iris
Sisyrinchium bellum	blue-eyed grass
JUNCACEAE	**RUSH FAMILY**
Juncus acutus* subsp. *leopoldii	**southwestern spiny rush**
Juncus bufonius var. *bufonius*	toad rush
LILIACEAE	**LILY FAMILY**
Calochortus splendens	lilac mariposa lily
POACEAE	**GRASS FAMILY**
*Agrostis viridis**	water bentgrass
Aristida adscensionis	six-week's three-awn
*Arundo donax**	giant reed
*Avena barbata**	slender wild oat
*Avena fatua**	wild oat
Bothriochloa barbinodis	cane bluestem
Bouteloua dactyloides	buffalo grass
Bouteloua gracilis	common grama
*Brachypodium distachyon**	false-brome
*Bromus catharticus**	rescue grass
*Bromus diandrus**	ripgut grass
Bromus grandis	tall brome
*Bromus hordeaceus**	soft chess
Bromus madritensis subsp. *rubens**	red brome
*Cortaderia selloana**	pampas grass
*Crypsis schoenoides**	prickle grass
*Cynodon dactylon**	Bermuda grass

*Dactylis glomerata**	orchard grass
*Digitaria sanguinalis**	hairy crabgrass
Elymus triticoides	beardless wild rye
*Festuca myuros**	rat-tail fescue
*Festuca perennis**	Italian ryegrass
*Gastridium phleoides**	nit grass
Hordeum marinum subsp. *gussoneanum**	Mediterranean barley
Hordeum murinum subsp. *leporinum**	hare barley
*Lamarckia aurea**	goldentop
Melica imperfecta	coast range melic
Muhlenbergia rigens	deergrass
*Pennisetum setaceum**	fountain grass
*Phalaris minor**	Mediterranean canary grass
Poa secunda subsp. *secunda*	one-sided bluegrass
*Polypogon monspeliensis**	annual beard grass
*Schismus barbatus**	Mediterranean schismus
*Setaria verticillata**	hooked bristlegrass
Sporobolus cryptandrus	sand dropseed
Stipa cernua	nodding needlegrass
Stipa lepida	small-flowered needlegrass
Stipa lettermanii	Letterman's needlegrass
Stipa miliacea var. *miliacea**	smilo grass
Stipa pulchra	purple needlegrass
THEMIDACEAE	**BRODIAEA FAMILY**
Bloomeria clevelandii	**San Diego goldenstar**
Bloomeria crocea var. *crocea*	common goldenstar
Brodiaea terrestris subsp. *kernensis*	dwarf brodiaea
Dichelostemma capitatum	blue dicks
TYPHACEAE	**CATTAIL FAMILY**
Typha domingensis	slender cattail

*Non-Native Species, +Ornamental, Unlikely to be Invasive

OBJECTID	SPECIES	Patch Size (feet)	Number of Individuals	Percent Vegetative	Percent Fruiting	Percent Flowering	Associated Species	Comments	X	Y	Pole Number (from field)	Work Area (from field)	Distance Meters	Distance Feet	Nearest Structure	Pole Location	Work Area Name
16383	Ambrosia chenopodifolia	0.0	1	0	75	25	Black sage, encelia californica	Growing in open CSS disturbed next to access road silty soils	-117.01194858	32.58594710	183072	Row bz	4.25	13.95	Work Areas	n/a	SS 3
16780	Ambrosia chenopodifolia	0.0	1	0	25	75	Encelia Californica, brassica nigra, broom baccharis	Open CSS disturbed, silty sandy soils, next to asphalt access road	-117.01207582	32.58587773	183072	Row bz	14.75	48.39	Work Areas	n/a	SS 3
17181	Ambrosia chenopodifolia	10.0	4	25	75	0	Artemisia californica, Simmondsia chinensis, NNG	west-facing slope	-117.01804881	32.58726643	188717	buffer	27.62	90.63	Poles	4	n/a
17184	Ambrosia chenopodifolia	5.0	2	0	100	0	artemsisa californica, rhus integrifolia	buffer zone between poles	-117.02251318	32.58777679	188715		69.37	227.58	Poles	2	n/a
17581	Ambrosia chenopodifolia	6.0	2	0	90	10	non native grasses	buffer zone between poles	-117.02241105	32.58764043	188715		54.50	178.79	Poles	2	n/a
17592	Ambrosia chenopodifolia	8.0	3	0	50	50	Artemesia californica		-117.02199094	32.58749384	188715		12.15	39.87	Poles	2	n/a
17594	Ambrosia chenopodifolia	20.0	2	0	50	50	None		-117.02187152	32.58755073	188715		7.69	25.24	Poles	2	n/a
17600	Ambrosia chenopodifolia	0.0	1	0	100	0	None		-117.02054578	32.58884075		Access Road	148.48	487.13	Work Areas	n/a	n/a
17601	Ambrosia chenopodifolia	15.0	8	0	75	25	Ca buckwheat, ca sagebrush	On boundary of access road; open CSS	-117.02087380	32.58901181	n/a	Access road bz	170.17	558.30	Poles	3	n/a
17602	Ambrosia chenopodifolia	2.0	1	0	50	50	eriogonum fasiculatum	adjacent to access road	-117.02104148	32.58930819		access road	203.75	668.48	Poles	3	n/a
17603	Ambrosia chenopodifolia	0.0	1	0	75	25	Ca buckwheat, nn grasses	Off access road from dennery road, open CSS soils rocky sandy	-117.02094336	32.58912019	n/a	Access road bz	182.36	598.29	Poles	3	n/a
17604	Ambrosia chenopodifolia	1.0	1	100	0	0	Eriogonum fasciculatum, Encelia californica, Simmondsia chinensis	disturbed CSS	-117.02089210	32.58926359	access road		198.07	649.83	Poles	3	n/a
17605	Ambrosia chenopodifolia	10.0	14	0	100	0	Artemisia californica, Eriogonum fasciculata		-117.02104521	32.58917924		Access road	189.57	621.94	Poles	3	n/a
17606	Ambrosia chenopodifolia	0.0	2	0	50	50	Ca sagebrush, white sage	Off access road at dennery road	-117.02106163	32.58928997	n/a	Access road	201.92	662.46	Poles	3	n/a
17608	Ambrosia chenopodifolia	0.0	2	0	50	50	Jojoba, ca sagebrush, bladderpod	Open CSS at edge of riparian scrub silty Loam soils	-117.01955918	32.58778717	n/a	Access road bz	50.13	164.46	Work Areas	n/a	n/a
17981	Ambrosia chenopodifolia	1.0	1	0	100	100	Artemisia californica	CSS	-117.02057773	32.58762782	188716	buffer	30.84	101.19	Poles	3	n/a
17982	Ambrosia chenopodifolia	0.0	1	0	100	0	None		-117.01984558	32.58763174	188715		18.24	59.83	Work Areas	n/a	n/a
17989	Ambrosia chenopodifolia	1.0	1	0	0	100	Eriogonum fasciculatum, Encelia californica, Salvia mellifera	CSS	-117.02090964	32.58925207	access road		196.83	645.77	Poles	3	n/a
17992	Ambrosia chenopodifolia	1.0	1	0	0	100	Artemisia californica, Salvia mellifera	CSS	-117.01946715	32.58757699	188717	outside buffer	38.98	127.89	Work Areas	n/a	n/a
40382	Ambrosia monogyra	4.0	6	100	0	0	Rhus integrifolia, Artemisia californica, Baccharis sarothroides	On edge of upper cut slope of access road.	-116.97713910	32.58653316	81976		7.65	25.09	Poles	41	n/a
40383	Ambrosia monogyra	20.0	6	100	0	0	Bromua diandrus, Sambucus nigra ssp. caerulea, Funastrum cynanchoides v. hartwegii		-116.97408971	32.58678235	81973		12.15	39.87	Poles	43	n/a
40384	Ambrosia monogyra	3.0	1	100	0	0	Bromua diandrus, Brachypodium distachyon, Cynodon dactylon	Between access roads	-116.97405540	32.58654264	81973		30.93	101.46	Poles	43	n/a

40783	Ambrosia monogyra	3.0	1	100	0	0	Bromua diandrus, Sambucus nigra ssp. caerulea, Funastrum cynanchoides v. hartwegii		-116.97438915	32.58679830	81973		16.08	52.75	Poles	43	n/a
41189	Ambrosia monogyra	6.0	5	100	0	0	Bromua diandrus, Funastrum cynanchoides v. hartwegii		-116.97409112	32.58690977	81973	adjacent to road	14.68	48.16	Poles	0	n/a
41589	Ambrosia monogyra	6.0	6	100	0	0	None		-116.97226397	32.58724383	81971		53.28	174.80	Poles	45	n/a
41590	Ambrosia monogyra	20.0	15	100	0	0	Bromua diandrus, Funastrum cynanchoides v. hartwegii	adajcent to road	-116.97499103	32.58675560	81973		71.65	235.08	Poles	0	n/a
41594	Ambrosia monogyra	10.0	2	100	0	0	Bromus diandrus, Baccharis sarothroides, Peritoma arborea		-116.97944972	32.58651154	82224		22.47	73.72	Poles	39	n/a
41595	Ambrosia monogyra	20.0	3	100	0	0	Bromus diandrus, Baccharis sarothroides, Peritoma arborea, Rhus integrifolia		-116.97958459	32.58654786	82224		32.52	106.70	Poles	39	n/a
41596	Ambrosia monogyra	15.0	2	100	0	0	Bromus diandrus, Baccharis sarothroides, Peritoma arborea, Rhus integrifolia		-116.97979216	32.58655538	82224		47.91	157.18	Poles	39	n/a
41597	Ambrosia monogyra	6.0	1	100	0	0	Bromus diandrus, Bromus hordeaceus, Baccharis sarothroides, Foeniculum vulgare, Rhus integrifolia		-116.98015805	32.58632456	82224		31.76	104.20	Poles	38	n/a
42382	Ambrosia monogyra	15.0	10	100	0	0	tamarix, Bromus diandrus, Rhus integrifolia, Funastrum cynanchoides v. hartwegii, Eriogonum fasciculatum		-116.95906739	32.59147783	81066	buffer zone	62.41	204.77	Poles	58	n/a
42813	Ambrosia monogyra	5.0	1	100	0	0	Avena sp.		-116.95594225	32.59229678	81061		45.64	149.75	Poles	60	n/a
42814	Ambrosia monogyra	8.0	2	100	0	0	Avena sp.	Open disturbed grassland	-116.95657480	32.59216835	81061		78.50	257.56	Poles	59	n/a
43581	Ambrosia monogyra	8.0	6	100	0	0	Bromus diandrus	Open disturbed grassland	-116.95671933	32.59193025	81063		50.43	165.44	Poles	59	n/a
49581	Ambrosia monogyra	2.5	1	100	0	0	Avena sp., Foeniculum vulgare	grassland	-116.96544315	32.58913882	SS15 AR		111.85	366.97	Work Areas	n/a	n/a
49582	Ambrosia monogyra	5.0	2	100	0	0	Avena sp., Foeniculum vulgare	grassland	-116.96534498	32.58915238	SS15 AR		114.73	376.40	Poles	52	n/a
49583	Ambrosia monogyra	3.0	1	100	0	0	Avena sp., Foeniculum vulgare	grassland	-116.96478171	32.58952453	SS15 AR		121.13	397.42	Work Areas	n/a	SS 15
50781	Ambrosia monogyra	3.0	1	100	0	0	Avena sp.	grassland	-116.95483668	32.59285889	AR across from 81061		80.69	264.72	Poles	61	n/a
17986	Artemisia palmeri	20.0	20	0	0	100	Elymus condensatus, jojoba laurel sumac	Along riparian scrub just inside access road row	-117.01992379	32.58839796	n/a	Access road row	92.98	305.06	Work Areas	n/a	n/a
17987	Artemisia palmeri	3.0	1	100	0	0	Malosma laurina, Heteromeles arbutifolia, Artemisia californica		-117.01990845	32.58838086		Access road	91.29	299.49	Work Areas	n/a	n/a
17187	Bergerocactus emoryi	0.0	3	0	50	50	SD bursage	Part of larger patch outside buffer zone (Sd bursage outside)sandy soils on CSS	-117.02195623	32.58787229	188715	Row bz edge	44.14	144.81	Poles	2	n/a
17591	Bergerocactus emoryi	15.0	31	0	75	25	Jojoba, Sd bursage, lemonade berry, Sd sunflowet	Disturbed CSS only 10 out of 31 inside row.	-117.02160201	32.58792011	188715	Bow bz	54.37	178.39	Poles	2	n/a
26415	Bloomeria clevelandii	1.0	2	0	0	100			-116.93978883	32.58477623	31741	buffer zone	43.54	142.85	Poles	94	n/a
26799	Bloomeria clevelandii	10.0	6	0	0	100	Stipa, Atriplex semibaccata, Eriogonum fasciculatum, Isocoma menziesii decumbens	grassland, vernal pool	-116.93983140	32.58681163	31738		47.27	155.09	Poles	91	n/a
26802	Bloomeria clevelandii	1.0	1	0	0	100	eriogonum fasciculatum	vernal pools/native grasslands	-116.93954325	32.58481975	31741	buffer zone	30.39	99.70	Poles	94	n/a
26803	Bloomeria clevelandii	3.0	2	0	0	100	Stipa, Ferocactus viridescens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93974864	32.58457621	31741	buffer zone	33.88	111.17	Poles	94	n/a
26804	Bloomeria clevelandii	0.0	1	0	0	100			-116.93978736	32.58476437	31741	buffer zone	42.78	140.34	Poles	94	n/a
26806	Bloomeria clevelandii	3.0	3	0	0	100	Stipa pulchra, Atriplex semibaccata		-116.93980213	32.58466816	31741	buffer zone	40.15	131.72	Poles	94	n/a
26808	Bloomeria clevelandii	10.0	3	0	0	100	Stipa pulchra, Atriplex semibaccata		-116.93977922	32.58412239	31742	buffer zone	57.60	188.97	Poles	95	n/a

27204	Bloomeria clevelandii	5.0	2	0	0	100	Stipa pulxhra, Avena barbata, Opuntia oricola, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93970132	32.58453654	31741	buffer zone	29.80	97.78	Poles	94	n/a
59983	Ceanothus otayensis	0.0	1	0	0	0	None	1 plant flowering. Found in alluvial fan scrub. Likely planted. Iva hayesiana, Baccharis sarothroides, Cypress sp.	-116.94053000	32.59856000	n/a	n/a	59.19	194.19	Work Areas	n/a	SS 20
17180	Convolvulus simulans	0.0	1	0	0	100	non native grassland	in buffer	-117.01361294	32.58725968	188722	adjacent to access road	51.80	169.96	Poles	8	n/a
30641	Convolvulus simulans	0.0	1	0	0	0	None	Margie Point - end point for patch extendgin between wpts 588 and Ryan's GPS wpt	0.00000000	0.00000000	n/a		25.76	84.50	Poles	4	n/a
32384	Deinandra conjugens	1.0	1	0	0	100	rhus integrifolia, non native grasses		-117.01501617	32.58730892	188720	buffer area	34.31	112.58	Poles	7	n/a
37184	Deinandra conjugens	10.0	11	10	0	90	Foeniculum vulgare, Centaurea melitensis, Salsola sp.		-117.02138548	32.58736151	188715, 188716		46.79	153.51	Poles	2	n/a
37582	Deinandra conjugens	1.0	1	0	0	100	mustard, fennel, star thistle		-117.02117112	32.58712273	188715	buffer area	49.21	161.47	Poles	3	n/a
37981	Deinandra conjugens	4.0	8	0	0	100	Foeniculum vulgare, Centaurea melitensis, Salsola sp., Corethrogyne filagnifolia		-117.02133894	32.58738483	188715, 188716		46.87	153.77	Poles	3	n/a
38381	Deinandra conjugens	1.0	1	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02006645	32.58759993	188716		4.11	13.49	Work Areas	n/a	n/a
38382	Deinandra conjugens	2.0	2	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02023409	32.58763274	188716		15.66	51.38	Work Areas	n/a	n/a
38383	Deinandra conjugens	1.0	2	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02079371	32.58761242	188716		16.17	53.05	Poles	3	n/a
38384	Deinandra conjugens	1.0	1	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02118596	32.58760139	188716		34.39	112.81	Poles	3	n/a
38385	Deinandra conjugens	1.0	1	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02140543	32.58761904	188716		45.59	149.58	Poles	2	n/a
38781	Deinandra conjugens	1.0	1	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02014046	32.58771400	188716		18.10	59.37	Work Areas	n/a	n/a
38782	Deinandra conjugens	1.0	2	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp.		-117.02069971	32.58756203	188716		17.26	56.62	Poles	3	n/a
38783	Deinandra conjugens	1.0	2	0	0	100	Brachypodium distachyon, Glebionis coronaria, Centaurea melitensis		-117.02095846	32.58752026	188716		11.20	36.74	Poles	3	n/a
38784	Deinandra conjugens	1.0	2	0	0	100	Bromus madritensis, Simmondsia chinensis, Artemisia californica, Avena sp., sd county viguiera	Open CSS with nn grass patches	-117.02121645	32.58754963	188716		35.26	115.68	Poles	3	n/a
38785	Deinandra conjugens	1.0	2	0	0	100	Deinandra paniculata, Glebionis coronaria, Bergerocactus emoryi, Centaurea melitensis		-117.02128337	32.58756596	188715		41.80	137.14	Poles	3	n/a
39588	Deinandra conjugens	1.0	2	0	0	100	Brome grasses, castor bean, fennel	Disturbed flat area with nn grasses	-116.99776866	32.58529477	81118		52.52	172.31	Poles	21	n/a
39591	Deinandra conjugens	1.0	1	0	0	100	Brome grasses, fennel	Disturbed area with nn grassses within annual grassland	-116.99586094	32.58513602	81114		55.52	182.16	Poles	24	n/a
39592	Deinandra conjugens	1.0	1	0	0	100	Brome grasses, fennel	Disturbed flat area with nn grassses within annual grassland	-116.99411357	32.58494902	81112		20.21	66.32	Poles	26	n/a

17595	Euphorbia misera	0.0	1	0	25	75	Bladder pod, golden spined cereus	CSS disturbed	-117.02144988	32.58762708	188715	Row bz	42.01	137.82	Poles	2	n/a
17596	Euphorbia misera	1.0	1	0	0	100	Artemisia californica, Avena barbata	disturbed CSS	-117.02028274	32.58758637	188716	buffer	14.77	48.46	Work Areas	n/a	n/a
17185	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Simmondsia chinensis, Rhus integrifolia	west-facing slope	-117.02265167	32.58760096	198715	outside	55.29	181.40	Poles	1	n/a
17186	Ferocactus viridescens	5.0	2	50	0	50	Artemisia californica, Eriogonum fasciculatum	near top of slope	-117.02200690	32.58773642	188715	inside buffer	31.30	102.71	Poles	2	n/a
17582	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Simmondsia chinensis, Rhis integrifolia	west-facing slope	-117.02239835	32.58768600	188715	outside buffer	55.23	181.22	Poles	2	n/a
17584	Ferocactus viridescens	0.0	3	100	0	0	Stipa pulcra	CSS with native grasses	-117.02211784	32.58768936	188715	Row bz	33.25	109.08	Poles	2	n/a
17585	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Rhus integrifolia	west-facing slope	-117.02205135	32.58758116	188715	inside buffer, 50 feet northwest of pole	20.90	68.56	Poles	2	n/a
17587	Ferocactus viridescens	1.0	1	0	0	100	Artemisia californica, Simmondsia chinensis	top of slope	-117.02202207	32.58754982	188715	within buffer	16.80	55.10	Poles	2	n/a
17589	Ferocactus viridescens	20.0	2	100	0	0	None		-117.02207739	32.58748300	188715		20.21	66.30	Poles	2	n/a
18783	Ferocactus viridescens	0.0	1	100	0	0	None		-116.97773329	32.58612633	81978		57.15	187.51	Poles	40	n/a
18789	Ferocactus viridescens	1.0	1	100	0	0	NNG, Artemisia californica, Eriogonum fasciculatum	west-facing slope	-116.97724624	32.58626964	81976		34.15	112.05	Poles	41	n/a
19181	Ferocactus viridescens	1.0	1	0	0	100	Artemisia californica, Eriogonum fasciculatum	CSS	-116.97768520	32.58612298	81978		61.09	200.44	Poles	40	n/a
19982	Ferocactus viridescens	0.0	1	100	0	0	Ca buckwheat and nn grasses	Within native grassland open area silty soils	-116.96239846	32.58976744	n/a	Ss7	62.65	205.55	Work Areas	n/a	SS 16
19984	Ferocactus viridescens	0.0	1	0	0	100	Cylindropuntia prolifera		-116.95908937	32.59092927	81066		58.11	190.66	Poles	57	n/a
19985	Ferocactus viridescens	1.0	1	0	0	100	Artemisia californica, Eriogonum fasciculatum	1 large barrel with 5 pups	-116.95928850	32.59099329	81066		38.38	125.92	Poles	57	n/a
20382	Ferocactus viridescens	1.0	3	50	0	50	Wild oat, deer weed, stipa pulcra	Native grassland open, rocky soils	-116.95397088	32.59193194	81060	Row bz	50.58	165.96	Poles	61	n/a
20384	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, Stipa pulchra		-116.95019483	32.59297179	81055		34.25	112.36	Poles	64	n/a
20386	Ferocactus viridescens	0.0	1	100	0	0	Ca buckwheat, Sd sunflower	Open CSS restored, soils sandy rocky gravelly	-116.94753174	32.59429199	81052	Row bz	54.95	180.27	Poles	66	n/a
20782	Ferocactus viridescens	0.0	2	100	0	0	Ca buckwheat, Sd sunflower	Open CSS (restored) gravelly rocky sandy soils	-116.94751841	32.59426718	81052	Row bz	57.12	187.40	Poles	66	n/a
20784	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculaum, Stipa pulchra	restoration area	-116.94754508	32.59442924	81052		50.40	165.36	Poles	66	n/a
21183	Ferocactus viridescens	3.0	2	100	0	0	None		-116.94383340	32.59723376	731604		37.69	123.67	Poles	70	n/a
21184	Ferocactus viridescens	0.0	2	100	0	0	Sd sunflower, ca sagebrush	Open CSS (restored) sandy gravelly soils	-116.94369886	32.59725948	n/a	731604	46.56	152.74	Poles	70	n/a
21581	Ferocactus viridescens	0.0	1	100	0	0	None		-116.94543473	32.59565575	81049		66.71	218.86	Poles	68	n/a
24787	Ferocactus viridescens	1.0	1	100	0	0	Stpia, Bromus diandrus, Avena barbata, Corethrogyne filagnifolia	ne-facing slope	-116.93974286	32.59480309	31728		33.20	108.94	Poles	81	n/a
24791	Ferocactus viridescens	1.0	1	100	0	0	eriogonum fasiculatum		-116.93963549	32.59360277	31730	buffer zone	28.01	91.91	Poles	83	n/a
24792	Ferocactus viridescens	1.0	1	0	0	100	eriogonum fasiculatum		-116.94060153	32.59483139	31730	buffer zone	113.23	371.50	Poles	81	n/a
25581	Ferocactus viridescens	6.0	3	100	0	0	None		-116.93894364	32.59649316	31729		48.14	157.94	Poles	78	n/a
26381	Ferocactus viridescens	0.0	1	0	0	100	None		-116.93983040	32.59182743	31732		40.61	133.23	Poles	85	n/a
26382	Ferocactus viridescens	1.0	2	100	0	0	Stipa pulchra	vernal pools	-116.93963219	32.59174007	31732		22.85	74.98	Poles	85	n/a
26383	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra	vernal pools	-116.93966270	32.59179209	31732		24.74	81.18	Poles	85	n/a
26384	Ferocactus viridescens	0.0	1	0	0	100	Selaginella cinerascens		-116.93985528	32.59175106	31732		43.18	141.67	Poles	85	n/a
26385	Ferocactus viridescens	15.0	5	100	0	0	Selaginella cinerascens		-116.93981171	32.59110533	31733		43.31	142.10	Poles	86	n/a
26386	Ferocactus viridescens	2.0	4	100	0	0	Bahiopsis laciniata, Eriogonum fasciculatum, Artemisia californica	CSS slope	-116.93976651	32.59082186	31733		36.44	119.55	Poles	86	n/a
26388	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Artemisia californica	grassland, vernal pool	-116.93945929	32.58835056	31736		39.54	129.73	Poles	89	n/a

26389	Ferocactus viridescens	1.0	1	100	0	0	bunch grasses		-116.93947521	32.58847971	31736		25.89	84.94	Poles	89	n/a
26390	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93970888	32.58842746	31736		42.44	139.25	Poles	89	n/a
26391	Ferocactus viridescens	0.0	1	0	0	100	Selaginella cinerascens		-116.93981847	32.58842988	31736		49.98	163.98	Poles	89	n/a
26392	Ferocactus viridescens	5.0	3	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93976413	32.58834455	31736		52.73	172.98	Poles	89	n/a
26393	Ferocactus viridescens	1.0	1	0	0	100	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93945016	32.58823246	31737		43.30	142.07	Poles	90	n/a
26394	Ferocactus viridescens	5.0	3	0	0	33	Selaginella cinerascens		-116.93980364	32.58823530	31737		58.03	190.39	Poles	90	n/a
26395	Ferocactus viridescens	6.0	4	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93977337	32.58793851	31737		37.30	122.37	Poles	90	n/a
26396	Ferocactus viridescens	0.0	1	100	0	0	Selaginella cinerascens		-116.93984406	32.58730318	31737		53.00	173.87	Poles	91	n/a
26397	Ferocactus viridescens	4.0	3	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93975839	32.58709873	31738		35.65	116.96	Poles	91	n/a
26398	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum, Isocoma menziesii decumbens	grassland, vernal pool	-116.93975788	32.58681100	31738		41.39	135.80	Poles	91	n/a
26399	Ferocactus viridescens	1.0	1	0	0	100	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93952698	32.58649397	31736		32.04	105.12	Poles	92	n/a
26402	Ferocactus viridescens	0.0	1	0	0	100			-116.93978845	32.58637578	31739	buffer zone	40.82	133.93	Poles	92	n/a
26403	Ferocactus viridescens	5.0	3	0	0	33			-116.93976269	32.58628802	31739	buffer zone	35.63	116.89	Poles	92	n/a
26404	Ferocactus viridescens	5.0	2	100	0	0			-116.93979358	32.58614413	31739	buffer zone	39.07	128.18	Poles	92	n/a
26405	Ferocactus viridescens	0.0	1	100	0	0			-116.93981728	32.58553475	729583	buffer zone	42.59	139.72	Poles	93	n/a
26406	Ferocactus viridescens	4.0	2	100	0	0	Stipa, Eriogonum fasciculatum, Acmispon glaber	grassland	-116.93975734	32.58563605	719583	buffer zone	42.90	140.76	Poles	93	n/a
26407	Ferocactus viridescens	0.0	1	100	0	0			-116.93976865	32.58513022	729583	buffer zone	46.80	153.53	Poles	93	n/a
26408	Ferocactus viridescens	0.0	1	100	0	0			-116.93980092	32.58496696	729583	buffer zone	57.89	189.94	Poles	94	n/a
26409	Ferocactus viridescens	1.0	1	0	0	100	Stipa, Eriogonum fasciculatum, Isocoma menziesii decumbens	grassland	-116.93968854	32.58515187	719583	buffer zone	39.64	130.04	Poles	93	n/a
26410	Ferocactus viridescens	6.0	2	100	0	0	eriogonum fasciculatum, atriplex sambucata	vernal pools/native grassland	-116.93957176	32.58508206	729583	buffer zone	39.63	130.00	Poles	93	n/a
26411	Ferocactus viridescens	0.0	1	0	0	100	Atriplex semibicatta, stipa, wild oat	Vernal pool-native grassland with emergent CSS shrubs	-116.93944446	32.58450247	31741	buffer zone	9.97	32.72	Poles	94	n/a
26412	Ferocactus viridescens	7.0	4	100	0	0			-116.93977315	32.58487003	729583	buffer zone	48.46	159.00	Poles	94	n/a
26413	Ferocactus viridescens	4.0	2	0	0	100	Atriplex semibicatta, stipa, wild oat	Vernal pool-native grassland with emergent CSS shrubs	-116.93944513	32.58442724	31741	buffer zone	17.62	57.81	Poles	94	n/a
26414	Ferocactus viridescens	1.0	2	100	0	0	eriogonum fasciculatum	vernal pools/native grassland	-116.93952753	32.58481307	31741	buffer zone	29.05	95.29	Poles	94	n/a
26416	Ferocactus viridescens	1.0	1	0	0	100	Stipa, Eriogonum fasciculatum, Atriplex semibaccata, Avena barbata		-116.93971220	32.58472501	31741	buffer zone	34.49	113.14	Poles	94	n/a
26782	Ferocactus viridescens	20.0	7	100	0	0	Selaginella cinerascens, Bahiopsis laciniata, Eriogonum fasciculatum	CSS hillside	-116.93979436	32.59064761	31733		48.45	158.94	Poles	86	n/a
26783	Ferocactus viridescens	1.0	1	100	0	0	bahiopsis laciniata, eriogonum fasiculatum		-116.93956415	32.59075063	31733	buffer zone	25.09	82.31	Poles	86	n/a
26786	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Avena, Isocoma menziesii decumbens	grassland, sparse CSS	-116.93975539	32.59000397	31734		36.74	120.54	Poles	87	n/a
26787	Ferocactus viridescens	15.0	4	100	0	0	None		-116.93976951	32.58976302	31734		36.92	121.12	Poles	87	n/a
26790	Ferocactus viridescens	1.0	2	100	0	0	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93974808	32.58944346	31735		37.78	123.95	Poles	88	n/a
26791	Ferocactus viridescens	10.0	2	100	0	0	Selaginella cinerascens		-116.93982192	32.58940164	31735		42.28	138.73	Poles	88	n/a
26793	Ferocactus viridescens	5.0	2	100	0	0	Selaginella cinerascens		-116.93978362	32.58920665	31735		37.31	122.40	Poles	88	n/a
26794	Ferocactus viridescens	5.0	3	100	0	0	Selaginella cinerascens		-116.93979678	32.58862384	31736		38.72	127.05	Poles	89	n/a
26795	Ferocactus viridescens	5.0	2	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93975893	32.58853056	31736		39.15	128.45	Poles	89	n/a
26796	Ferocactus viridescens	0.0	1	100	0	0	Selaginella cinerascens		-116.93981323	32.58765624	31737		44.72	146.71	Poles	90	n/a

26797	Ferocactus viridescens	1.0	1	100	0	0	Wild oat, Atriplex semibaccata, erfa	grassland, vernal pool	-116.93942023	32.58706025	31738		5.40	17.72	Poles	91	n/a
26800	Ferocactus viridescens	5.0	3	100	0	0	eriogonum fasciculatum	vernal pools/native grassland	-116.93958030	32.58536761	729583	buffer zone	18.30	60.04	Poles	93	n/a
26801	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Eriogonum fasciculatum, Selaginella cinerascens, Atriplex semibaccata	grassland	-116.93966593	32.58495249	719583	buffer zone	48.91	160.48	Poles	94	n/a
26805	Ferocactus viridescens	2.0	2	0	0	100	Stipa, Bloomeria clevelandii, Eriogonum fasciculatum	grassland	-116.93971991	32.58460215	31741	buffer zone	31.29	102.65	Poles	94	n/a
26807	Ferocactus viridescens	2.0	2	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93964998	32.58410484	31742	buffer zone	48.99	160.73	Poles	95	n/a
26810	Ferocactus viridescens	20.0	4	100	0	0	Eriogonum fasciculatum, Avena barbata		-116.93961737	32.58338549	31742	buffer zone	43.22	141.78	Poles	95	n/a
26813	Ferocactus viridescens	1.0	1	100	0	0	Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland/vernal pool	-116.93948632	32.58312867	31743	buffer zone	23.56	77.29	Poles	96	n/a
26817	Ferocactus viridescens	10.0	4	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens	grassland	-116.93982579	32.58241581	31744	buffer zone	31.64	103.81	Work Areas	n/a	SS 23
27182	Ferocactus viridescens	18.0	29	100	0	0	Selaginella cinerascens, Bahiopsis laciniata		-116.93981142	32.59057222	31733		55.31	181.46	Poles	86	n/a
27185	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex	grassland, vernal pool	-116.93967381	32.58958955	31734		40.50	132.86	Poles	87	n/a
27186	Ferocactus viridescens	0.0	1	100	0	0	Selaginella cinerascens		-116.93978152	32.58962173	31735		45.38	148.89	Poles	87	n/a
27187	Ferocactus viridescens	1.0	1	0	0	100	atriplex sambucata, bunch grasses		-116.93953743	32.58932471	31735	buffer zone	14.22	46.67	Poles	88	n/a
27188	Ferocactus viridescens	10.0	4	75	0	25	Stipa, Atriplex semibaccata	grassland, vernal pools	-116.93970563	32.58942405	31735		33.25	109.08	Poles	88	n/a
27189	Ferocactus viridescens	5.0	3	100	0	0	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93966508	32.58934843	31735		26.44	86.74	Poles	88	n/a
27190	Ferocactus viridescens	6.0	2	0	0	100	atriplex sambucata, bunch grasses	Vernal pool-native grassland	-116.93944035	32.58896131	31735	buffer zone	28.84	94.61	Poles	89	n/a
27191	Ferocactus viridescens	1.0	2	100	0	0	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93970660	32.58911751	31735		34.23	112.30	Poles	88	n/a
27192	Ferocactus viridescens	9.0	3	100	0	0	Selaginella cinerascens		-116.93982994	32.58889238	31735		45.86	150.46	Poles	89	n/a
27193	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Artemisia californica	grassland, vernal pool	-116.93971434	32.58886837	31736		35.07	115.05	Poles	89	n/a
27195	Ferocactus viridescens	1.0	2	50	0	50	Stipa, Atriplex semibaccata, erfa	grassland, vernal pool	-116.93943381	32.58777716	31737		8.40	27.57	Poles	90	n/a
27196	Ferocactus viridescens	5.0	2	100	0	0	Selaginella cinerascens		-116.93983276	32.58795674	31737		43.23	141.82	Poles	90	n/a
27197	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93977795	32.58785680	31737		36.27	119.00	Poles	90	n/a
27198	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93979727	32.58770358	31737		41.13	134.96	Poles	90	n/a
27199	Ferocactus viridescens	6.0	2	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93984498	32.58675324	31738		51.76	169.82	Poles	91	n/a
27200	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum, Isocoma menziesii decumbens	grassland, vernal pool	-116.93976795	32.58604491	31739		40.94	134.33	Poles	92	n/a
27201	Ferocactus viridescens	10.0	2	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93976795	32.58604488	31739		40.94	134.33	Poles	92	n/a
27202	Ferocactus viridescens	0.0	1	100	0	0			-116.93981237	32.58585510	31739	buffer zone	57.34	188.14	Poles	92	n/a
27203	Ferocactus viridescens	0.0	1	100	0	0			-116.93977904	32.58478361	31741	buffer zone	43.17	141.64	Poles	94	n/a
27205	Ferocactus viridescens	10.0	2	50	0	50	Stipa pulchra, Atriplex semibaccata		-116.93974423	32.58452705	31741	buffer zone	33.96	111.41	Poles	94	n/a
27206	Ferocactus viridescens	1.0	1	100	0	0	Stipa pulchra, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93974798	32.58439869	31741	buffer zone	39.27	128.83	Poles	94	n/a
27207	Ferocactus viridescens	20.0	3	75	0	25	Stipa pulchra, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93974648	32.58439507	31742	buffer zone	39.35	129.11	Poles	94	n/a

27208	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93969224	32.58323341	31743	buffer zone	43.74	143.49	Poles	96	n/a
27209	Ferocactus viridescens	0.0	1	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93976505	32.58319415	31743	buffer zone	45.54	149.41	Poles	96	n/a
27210	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93969217	32.58314197	31743	buffer zone	36.58	120.00	Poles	96	n/a
27211	Ferocactus viridescens	0.0	1	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93979305	32.58303639	31743	buffer zone	39.42	129.34	Poles	96	n/a
27212	Ferocactus viridescens	1.0	2	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93968642	32.58304952	31743	buffer zone	30.58	100.33	Poles	96	n/a
27213	Ferocactus viridescens	0.0	1	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93975365	32.58294581	31743	buffer zone	34.00	111.55	Poles	96	n/a
27214	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93970412	32.58302382	31743	buffer zone	31.04	101.84	Poles	96	n/a
27215	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, bahiopsis laciniata	grassland	-116.94071609	32.58298932	31744	buffer zone	98.87	324.39	Poles	99	n/a
27583	Ferocactus viridescens	0.0	1	0	0	100	Bahiopsis laciniata		-116.94033754	32.58240194	31767		42.42	139.18	Poles	98	n/a
27584	Ferocactus viridescens	4.0	2	0	0	100	Bahiopsis laciniata		-116.93991046	32.58244295	31767		34.61	113.55	Work Areas	n/a	SS 23
27585	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens		-116.93969293	32.58199201	31744	buffer zone	10.97	35.98	Work Areas	n/a	SS 23
27586	Ferocactus viridescens	10.0	5	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens	grassland	-116.94010325	32.58175169	31767	buffer zone	39.16	128.49	Poles	98	n/a
27587	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens		-116.94012109	32.58189772	31767	buffer zone	23.56	77.30	Poles	98	n/a
27588	Ferocactus viridescens	6.0	4	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens	grassland	-116.94027022	32.58176225	31767	buffer zone	42.81	140.44	Poles	98	n/a
27589	Ferocactus viridescens	0.0	1	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens	grassland	-116.94124252	32.58175882	31767	buffer zone	55.17	181.00	Poles	99	n/a
27981	Ferocactus viridescens	6.0	2	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens	grassland	-116.93949827	32.58225428	31744	buffer zone	11.59	38.02	Work Areas	n/a	SS 22
30522	Ferocactus viridescens	7.0	2	0	0	100	EF, stipa	Margie Point vernal pools	-116.93961900	32.58635000	31739	buffer zone	25.35	83.16	Poles	92	n/a
37581	Ferocactus viridescens	10.0	2	100	0	0	Artemisia californica, Rhus integrifolia	west-facing slope	-117.02183613	32.58739842	188715	inside buffer, 40 feet south of pole	9.54	31.32	Poles	2	n/a
38787	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Simmondsia chinensis, Rhis integrifolia	west-facing slope	-117.02235571	32.58783994	188715	outside buffer	61.03	200.23	Poles	2	n/a
42381	Ferocactus viridescens	1.0	1	0	0	100	Artemisia californica, Eriogonum fasciculatum, Cylindropuntia prolifera		-116.95919627	32.59104902	81066		46.61	152.92	Poles	57	n/a
44387	Ferocactus viridescens	4.0	3	100	0	0	Artemisia californica, Gutierrezia sp., Eriogonum fasciculatum	Open vernal pool	-116.93861098	32.59850827	188730		17.69	58.05	Work Areas	n/a	SS 21
45193	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Gutierrezia sp., Eriogonum fasciculatum	Open vernal pool	-116.93858188	32.59849962	188730		15.15	49.72	Work Areas	n/a	SS 21
45194	Ferocactus viridescens	1.0	1	100	0	0	Artemisia californica, Gutierrezia sp., Eriogonum fasciculatum, Rhus integrifolia	Open vernal pool	-116.93859137	32.59856408	188730		21.59	70.82	Work Areas	n/a	SS 21
49187	Ferocactus viridescens	1.0	1	0	0	100	Artemisia californica, Eriogonum fasciculatum	CSS	-116.98264395	32.58446302	280402	pole buffer zone	155.48	510.10	Poles	36	n/a
51984	Ferocactus viridescens	1.0	1	100	0	0	Jojoba		-116.94017058	32.58256273	n/a	Ss24	51.19	167.93	Work Areas	n/a	SS 23
52802	Ferocactus viridescens	5.0	2	100	0	0	Bahiopsis laciniata		-116.93852320	32.58146671	n/a	SS24	63.89	209.61	Poles	97.1	n/a

52803	Ferocactus viridescens	1.0	1	100	0	0	Bahiopsis laciniata		-116.93857534	32.58145733	n/a	SS24	61.28	201.06	Poles	97.1	n/a
52804	Ferocactus viridescens	0.0	1	0	0	100	Bahiopsis laciniata		-116.94035691	32.58243440	31767		46.37	152.15	Poles	98	n/a
52805	Ferocactus viridescens	0.0	1	0	0	100	Bahiopsis laciniata		-116.94047099	32.58248256	31767		53.29	174.83	Poles	99	n/a
53181	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens		-116.93924308	32.58180964	31744	buffer zone	20.68	67.84	Work Areas	n/a	SS 24
53182	Ferocactus viridescens	1.0	2	0	0	100	Eriogonum fasciculatum, Bahiopsis laciniata, Selaginella cinerascens		-116.93921066	32.58177767	31744	buffer zone	21.99	72.15	Poles	97.1	n/a
53183	Ferocactus viridescens	1.0	1	100	0	0	Bahiopsis laciniata		-116.93877164	32.58158670	n/a	SS24	38.59	126.60	Poles	97.1	n/a
53184	Ferocactus viridescens	5.0	2	100	0	0	Bahiopsis laciniata		-116.93868975	32.58152157	n/a	SS24	48.95	160.61	Poles	97.1	n/a
53185	Ferocactus viridescens	3.0	2	100	0	0	Bahiopsis laciniata		-116.93861297	32.58155674	n/a	SS24	50.89	166.96	Poles	97.1	n/a
53186	Ferocactus viridescens	1.0	1	100	0	0	Bahiopsis laciniata		-116.93863066	32.58147074	n/a	SS24	56.81	186.38	Poles	97.1	n/a
53187	Ferocactus viridescens	0.5	1	100	0	0	Bahiopsis laciniata		-116.93851364	32.58155310	n/a	SS24	56.90	186.69	Work Areas	n/a	SS 24
53188	Ferocactus viridescens	0.0	1	0	0	100	Bahiopsis laciniata		-116.94032833	32.58246412	31767		47.51	155.88	Poles	98	n/a
53588	Ferocactus viridescens	1.0	3	0	0	100	Stipa pulchra	vernal pools	-116.93971670	32.59233800	31731		43.08	141.35	Poles	84	n/a
53590	Ferocactus viridescens	1.0	1	100	0	0	bahiopsis laciniata, eriogonum fasiculatum		-116.93967907	32.59079850	31733	buffer zone	29.96	98.29	Poles	86	n/a
53593	Ferocactus viridescens	1.0	4	0	0	100	Stipa, Atriplex, EF, isocoma m decumbens	grassland, vernal pool	-116.93959053	32.59010377	31734		31.57	103.59	Poles	87	n/a
53594	Ferocactus viridescens	0.0	1	100	0	0	Selaginella cinerascens		-116.93983363	32.58959724	31735		50.93	167.09	Poles	87	n/a
53596	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93962667	32.58907840	31735		31.03	101.80	Poles	88	n/a
53598	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata	grassland, vernal pool	-116.93960456	32.58901813	31735		34.90	114.49	Poles	88	n/a
53600	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93984427	32.58831326	31736		60.38	198.11	Poles	89	n/a
53601	Ferocactus viridescens	6.0	2	0	0	100	Selaginella cinerascens		-116.93979004	32.58813263	31737		49.15	161.25	Poles	90	n/a
53607	Ferocactus viridescens	1.0	1	0	0	100	Stipa, Bloomeria clevelandii, Eriogonum fasciculatum	grassland	-116.93976054	32.58462711	31741	buffer zone	35.41	116.16	Poles	94	n/a
53608	Ferocactus viridescens	1.0	2	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93967831	32.58416179	31742		53.63	175.96	Poles	94	n/a
53609	Ferocactus viridescens	1.0	1	100	0	0	Eriogonum fasciculatum, Avena barbata		-116.93971989	32.58346877	31742	buffer zone	42.13	138.21	Poles	95	n/a
53987	Ferocactus viridescens	1.0	1	100	0	0	eriogonum fasiculatum		-116.93964680	32.59397040	31730	buffer zone	34.58	113.45	Poles	82	n/a
53989	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra	vernal pools	-116.93966826	32.59322957	31730		34.31	112.55	Poles	83	n/a
53992	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra	vernal pools	-116.93960107	32.59282436	31731		29.34	96.25	Poles	84	n/a
53994	Ferocactus viridescens	1.0	2	0	0	100	Stipa pulchra, EF, AC	vernal pools	-116.93954465	32.59221501	31732		46.87	153.78	Poles	84	n/a
53995	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra, EF, AC	vernal pools	-116.93971771	32.59207707	31732		42.82	140.47	Poles	85	n/a
53996	Ferocactus viridescens	5.0	3	0	0	100	Stipa pulchra	vernal pools	-116.93975442	32.59200976	31731		40.62	133.28	Poles	85	n/a
53997	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra	vernal pools	-116.93980966	32.59195847	31731		42.34	138.91	Poles	85	n/a
53998	Ferocactus viridescens	1.0	1	0	0	100	Stipa pulchra, EF, AC	vernal pools	-116.93961302	32.59198596	31732		28.72	94.23	Poles	85	n/a
53999	Ferocactus viridescens	3.0	2	0	0	100	Stipa pulchra	vernal pools	-116.93987613	32.59191253	31731		46.49	152.52	Poles	85	n/a
54000	Ferocactus viridescens	0.0	1	0	0	100	None		-116.93977554	32.59176686	31732		35.53	116.57	Poles	85	n/a
54002	Ferocactus viridescens	1.0	1	100	0	0	Selaginella cinerascens		-116.93974302	32.59108931	31733		36.77	120.63	Poles	86	n/a
54003	Ferocactus viridescens	1.0	2	100	0	0	Selaginella cinerascens, avena, EF		-116.93956240	32.59094081	31733		15.30	50.19	Poles	86	n/a
54004	Ferocactus viridescens	5.0	3	100	0	0	Selaginella cinerascens		-116.93975769	32.59098608	31733		34.19	112.17	Poles	86	n/a
54005	Ferocactus viridescens	1.0	2	100	0	0	bahiopsis laciniata, eriogonum fasiculatum		-116.93958653	32.59068471	31733	buffer zone	32.26	105.85	Poles	86	n/a
54009	Ferocactus viridescens	1.0	1	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93956524	32.58845873	31736		31.45	103.17	Poles	89	n/a
54018	Ferocactus viridescens	0.3	1	0	100	0	Eriogonum fasciculatum, Atriplex semibaccata	vernal pools/native grassland	-116.93949270	32.58529472	729583	buffer zone	15.54	51.00	Poles	93	n/a

54019	Ferocactus viridescens	1.0	2	0	100	0	Stipa pulchra, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93975316	32.58446123	31742	buffer zone	36.70	120.40	Poles	94	n/a
54021	Ferocactus viridescens	1.0	1	0	100	0	Stipa pulchra, Atriplex semibaccata		-116.93973095	32.58443106	31741	buffer zone	36.14	118.57	Poles	94	n/a
54022	Ferocactus viridescens	1.0	1	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93970530	32.58420927	31742		50.63	166.10	Poles	94	n/a
54783	Ferocactus viridescens	1.0	1	100	0	0	Selaginella cinerascens, avena, stops pulcra	vernal pools	-116.93960852	32.58966422	31734		30.22	99.15	Poles	87	n/a
54784	Ferocactus viridescens	1.0	1	100	0	0	atriplex sambucata, bunch grasses		-116.93956507	32.58921670	31735	buffer zone	17.32	56.81	Poles	88	n/a
54788	Ferocactus viridescens	0.0	1	100	0	0	Nessela sp erfa		-116.93979013	32.58573767	31739	buffer zone	52.58	172.50	Poles	93	n/a
54789	Ferocactus viridescens	0.0	1	100	0	0			-116.93987688	32.58570942	31739		56.77	186.26	Poles	93	n/a
54790	Ferocactus viridescens	1.0	2	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93955441	32.58425360	31741		39.26	128.79	Poles	94	n/a
54791	Ferocactus viridescens	1.0	1	100	0	0	Stipa pulchra, Isocoma menziesii decumbens, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93983983	32.58402156	31742	buffer zone	53.93	176.93	Poles	95	n/a
55586	Ferocactus viridescens	5.0	3	100	0	0	None		-116.93882504	32.59637426	31729		64.18	210.57	Poles	78	n/a
17985	Harpagonella palmeri	0.0	1	0	100	0	None		-117.01984369	32.58766044	188715		20.00	65.60	Work Areas	n/a	n/a
24785	Hesperocyparis forbesii	8.0	1	100	0	0	Sd sunflower	On AR near pole 31728 open CSS on slope: tc = 1 Dgb = 5	-116.93948249	32.59472471	31728		7.35	24.12	Poles	81	n/a
44389	Hesperocyparis forbesii	2.0	1	100	0	0	Eriogonum fasciculatum, Salvia munzii, Baccharis sarothroides		-116.94112005	32.59848706	731391		32.39	106.27	Poles	74	n/a
51184	Hesperocyparis forbesii	1.5	1	100	0	0	Iva hayesiana, Baccharis sarothroides	restoration	-116.94177522	32.59875695	AR across from 731591		64.84	212.73	Poles	73	n/a
44792	Holocarpha virgata ssp. elongata	6.0	12	100	0	0	Isocoma menziesii v. decumbens, Erodium botrys, Centaurea melitensid		-116.94532176	32.59682509	731392		37.98	124.62	Poles	69	n/a
24781	Isocoma menziesii var. decumbens	4.0	2	100	0	0	Bromus madritensis, Eriogonum fasciculatum	road edge	-116.94087687	32.59820681	731391		40.07	131.45	Poles	74	n/a
24782	Isocoma menziesii var. decumbens	1.0	1	100	0	0	baccharis sarothroides	adjacent to access road	-116.93947730	32.59609716	31726	buffer zone	31.86	104.54	Poles	79	n/a
24783	Isocoma menziesii var. decumbens	1.0	1	100	0	0	non native grasses	adjacent to access road	-116.93951796	32.59609247	31726	buffer zone	32.37	106.20	Poles	79	n/a
24784	Isocoma menziesii var. decumbens	2.0	2	100	0	0	eriogonum fasiculatum	hillside	-116.93966922	32.59505479	193457	buffer zone	33.16	108.79	Poles	80	n/a
24788	Isocoma menziesii var. decumbens	5.0	10	100	0	0	eriogonum fasiculatum		-116.93913873	32.59456973	31728	buffer zone	29.81	97.80	Poles	81	n/a
24789	Isocoma menziesii var. decumbens	5.0	10	0	0	0	eriogonum fasiculatum		-116.93967366	32.59438962	31729	buffer zone	32.52	106.68	Poles	82	n/a
24795	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Eriogonum fasciculatum, avena barbata	grassland	-116.93861898	32.58958908	31734	access road buffer	79.58	261.08	Poles	87	n/a
25181	Isocoma menziesii var. decumbens	4.0	2	100	0	0	Baccharis sarothroides, Eriogonum fasiculatum	adjacent to access road	-116.94097664	32.59820003	731391	access road	30.83	101.14	Poles	74	n/a
26400	Isocoma menziesii var. decumbens	1.0	1	0	0	0	erupting. fasciculatum		-116.93960776	32.58654270	31738	buffer zone	40.32	132.27	Poles	92	n/a
26401	Isocoma menziesii var. decumbens	4.0	5	100	0	0	Stipa, Avena barbata, Eriogonum fasciculatum	grassland, vernal pool	-116.93975337	32.58647317	729583		43.56	142.91	Poles	92	n/a
26784	Isocoma menziesii var. decumbens	1.0	1	100	0	0	None		-116.93960322	32.59036557	31733	buffer zone	58.14	190.76	Poles	87	n/a
26785	Isocoma menziesii var. decumbens	1.0	1	0	0	0	artemisia californica		-116.94024885	32.58886319	31733	buffer zone	82.14	269.48	Poles	89	n/a
26792	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulcra	Vernal pool-native grassland	-116.93962752	32.58935174	31735	buffer zone	23.21	76.14	Poles	88	n/a
26798	Isocoma menziesii var. decumbens	10.0	11	100	0	0	Stipa, Atriplex semibaccata, Eriogonum fasciculatum	grassland, vernal pool	-116.93972378	32.58668748	31738		48.13	157.91	Poles	91	n/a
26809	Isocoma menziesii var. decumbens	10.0	4	100	0	0	Stipa, Eriogonum fasciculatum, Festuca perennis		-116.93965131	32.58403516	31742	buffer zone	42.58	139.71	Poles	95	n/a
26811	Isocoma menziesii var. decumbens	1.0	1	0	0	0	Wild oat	Off AR, disturbed vernal pool-native	-116.93935000	32.58303698	31743	buffer zone	12.36	40.54	Poles	96	n/a

								grassland									
26812	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Simmondsia chinensis, Eriogonum fasciculatum, Avena barbata		-116.93969598	32.58323181	31743	buffer zone	43.83	143.79	Poles	96	n/a
26814	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93967898	32.58292299	31743	buffer zone	26.96	88.44	Poles	96	n/a
26815	Isocoma menziesii var. decumbens	4.0	3	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93965267	32.58268181	31743	buffer zone	28.36	93.06	Work Areas	n/a	SS 22
26816	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93964189	32.58269530	31743	buffer zone	27.80	91.21	Work Areas	n/a	SS 22
27183	Isocoma menziesii var. decumbens	1.0	1	100	0	0	eriogonum fasiculatum		-116.93951224	32.59011218	31734	buffer zone	28.86	94.70	Poles	87	n/a
27194	Isocoma menziesii var. decumbens	1.0	2	100	0	0	Stipa pulcra	Vernal pool-native grassland	-116.93941110	32.58853664	31736	buffer zone	18.54	60.84	Poles	89	n/a
27216	Isocoma menziesii var. decumbens	6.0	3	0	0	0	Wild oat, erfa, Sd sunflower, Sd barrel cactus	Off AR, disturbed vernal pool-native grassland	-116.93944002	32.58220956	31744	buffer zone	5.95	19.51	Work Areas	n/a	SS 22
27582	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Avena sp., Corethrogyne filagnifolia	grassland	-116.94514665	32.58141767	31745		8.55	28.05	Poles	104	n/a
28381	Isocoma menziesii var. decumbens	5.0	2	100	0	0	Avena barbata	NNG	-116.94534098	32.57948589	31749		40.56	133.09	Poles	107	n/a
28382	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Avena barbata	NNG	-116.94535042	32.57984058	31749		26.73	87.69	Poles	106	n/a
30706	Isocoma menziesii var. decumbens	1.0	1	0	0	0	None	Margie Point	-116.93946960	32.59802493	n/a	n/a	33.12	108.68	Work Areas	n/a	SS 20
32382	Isocoma menziesii var. decumbens	10.0	3	100	0	0	Foeniculum vulgare, Avena sp.	grassland	-117.01314425	32.58647992		188722	40.89	134.16	Poles	9	n/a
32383	Isocoma menziesii var. decumbens	12.0	5	100	0	0	Avena sp., Foeniculum vulgare, Rhus integrifolia	grassland	-117.01344801	32.58683772	188722		16.31	53.50	Poles	9	n/a
32781	Isocoma menziesii var. decumbens	8.0	2	100	0	0	Avena sp., Foeniculum vulgare, Rhus integrifolia	grassland	-117.01343756	32.58670260	188722		20.99	68.85	Poles	9	n/a
36381	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Festuca perennis, Stipa sp., Foeniculum vulgare	grassland	-117.00732678	32.58559646	188725		32.14	105.44	Poles	14	n/a
36382	Isocoma menziesii var. decumbens	5.0	3	100	0	0	Festuca perennis, Stipa sp., Foeniculum vulgare	grassland	-117.00726539	32.58557518	188725		28.44	93.30	Poles	14	n/a
37982	Isocoma menziesii var. decumbens	5.0	3	100	0	0	Foeniculum vulgare, Avena sp., Sisyrhinchium bellum		-117.02092626	32.58736516	188716		14.03	46.02	Poles	3	n/a
37983	Isocoma menziesii var. decumbens	5.0	2	100	0	0	avena Barbara, bladderpod, fennel		-117.02063705	32.58745435	188716	buffer zone	20.34	66.72	Poles	3	n/a
39582	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare		-116.99962324	32.58537655	188728		18.68	61.29	Poles	20	n/a
39583	Isocoma menziesii var. decumbens	6.0	2	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare		-116.99961827	32.58539217	188728		19.37	63.55	Poles	20	n/a
39584	Isocoma menziesii var. decumbens	10.0	8	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare	grassland	-116.99938208	32.58538396	188728		41.36	135.69	Poles	20	n/a
39585	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare		-116.99938583	32.58538453	188728		41.01	134.55	Poles	20	n/a
39586	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare	grassland	-116.99922130	32.58534857	188728		56.42	185.12	Poles	20	n/a
39587	Isocoma menziesii var. decumbens	5.0	2	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare	grassland	-116.99908432	32.58536504	188728		69.29	227.32	Poles	20	n/a
39589	Isocoma menziesii var. decumbens	5.0	5	100	0	0	Brachypodium distachyon, Stipa sp., Foeniculum vulgare	grassland	-116.99705826	32.58547720	81116		17.97	58.97	Work Areas	n/a	SS 8
39590	Isocoma menziesii var. decumbens	10.0	7	100	0	0	Brachypodium distachyon, Stipa sp., Foeniculum vulgare	grassland	-116.99567226	32.58535468	81114		31.40	103.01	Poles	24	n/a
39593	Isocoma menziesii var. decumbens	1.0	2	100	0	0	Brachypodium distachyon, Stipa sp., Foeniculum vulgare	grassland	-116.99088449	32.58509642	81107		14.01	45.97	Work Areas	n/a	SS 10
39594	Isocoma menziesii var. decumbens	3.0	1	100	0	0	Brachypodium distachyon, Foeniculum vulgare	grassland	-116.98867814	32.58482484	81104		15.55	51.02	Poles	31	n/a

39595	Isocoma menziesii var. decumbens	5.0	3	100	0	0	Brachypodium distachyon, Foeniculum vulgare, Rhus integrifolia	grassland	-116.98880028	32.58469429	81104		29.19	95.78	Poles	31	n/a
39596	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Brachypodium distachyon, Foeniculum vulgare	grassland	-116.98827903	32.58491113	81104		43.99	144.33	Poles	31	n/a
39597	Isocoma menziesii var. decumbens	10.0	2	100	0	0	Brachypodium distachyon, Foeniculum vulgare	grassland	-116.98830897	32.58487624	81104		41.81	137.18	Poles	31	n/a
39598	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare	grassland	-117.00003087	32.58553806	188728		27.76	91.07	Poles	20	n/a
39981	Isocoma menziesii var. decumbens	5.0	2	100	0	0	Brachypodium distachyon, Foeniculum vulgare, Rhus integrifolia	grassland	-116.98905625	32.58490804	81104		29.78	97.70	Poles	31	n/a
39982	Isocoma menziesii var. decumbens	3.0	1	100	0	0	Brachypodium distachyon, Foeniculum vulgare	grassland	-116.98810343	32.58500848	81104		60.47	198.38	Poles	32	n/a
39983	Isocoma menziesii var. decumbens	1.0	2	100	0	0	Brachypodium distachyon, Foeniculum vulgare	grassland	-116.98800840	32.58496137	81104		53.68	176.13	Poles	32	n/a
39984	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Avena sp., Foeniculum vulgare	grassland	-116.98595510	32.58536460	81102		52.51	172.26	Poles	33	n/a
39985	Isocoma menziesii var. decumbens	12.0	1	100	0	0	Brachypodium distachyon, Avena sp., Foeniculum vulgare, Rhus integrifolia, Stipa sp.	grassland	-116.98540051	32.58535352	81100		13.91	45.64	Poles	34	n/a
39986	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Bromus diandrus, Foeniculum vulgare, Avena sp.	grassland	-117.00013265	32.58564475	188728		42.90	140.76	Poles	20	n/a
40385	Isocoma menziesii var. decumbens	5.0	2	100	0	0	nasella	grassland	-116.97307902	32.58648957	81973	buffer zone	46.04	151.05	Poles	44	n/a
40386	Isocoma menziesii var. decumbens	1.0	1	100	0	0	fennel, nasella	grassland	-116.97068810	32.58681464	81969	buffer zone	32.04	105.12	Poles	46	n/a
40781	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Bromus diandrus, Peritoma arborea, Baccharis sarothroides		-116.97853873	32.58642331	81978		29.22	95.86	Poles	40	n/a
40782	Isocoma menziesii var. decumbens	1.0	1	100	0	0	art. californica, EF		-116.97771449	32.58623156	81978	buffer zone	52.88	173.49	Poles	40	n/a
40784	Isocoma menziesii var. decumbens	5.0	3	100	0	0	nasella	grassland	-116.97311744	32.58665465	81973	buffer zone	29.96	98.30	Poles	44	n/a
41181	Isocoma menziesii var. decumbens	8.0	2	100	0	0	Brachypodium distachyon, Foeniculum vulgare, Rhus integrifolia		-116.97838197	32.58642180	81978		14.48	47.51	Poles	40	n/a
41182	Isocoma menziesii var. decumbens	10.0	4	100	0	0	Brachypodium distachyon, Foeniculum vulgare, Rhus integrifolia		-116.97833175	32.58640239	81978		10.10	33.13	Poles	40	n/a
41184	Isocoma menziesii var. decumbens	1.0	1	100	0	0	fennel, nasella	grassland	-116.97082662	32.58677829	81969	buffer zone	39.68	130.18	Poles	46	n/a
41185	Isocoma menziesii var. decumbens	1.0	1	100	0	0	fennel, nasella	grassland	-116.97094256	32.58680205	81969	buffer zone	43.42	142.44	Poles	46	n/a
41186	Isocoma menziesii var. decumbens	1.0	1	0	0	100	fennel, nasella	grassland	-116.96997455	32.58692610	81969	buffer zone	58.35	191.44	Poles	47	n/a
41583	Isocoma menziesii var. decumbens	1.0	1	0	0	100	rhus integrifolia, fennel, nasella	grassla d	-116.97148250	32.58679022	81971	buffer zone	36.08	118.37	Poles	45	n/a
41585	Isocoma menziesii var. decumbens	2.0	1	100	0	0	None		-116.96474650	32.58807139	81074		3.06	10.05	Work Areas	n/a	SS 14
41981	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa sp., Foeniculum vulgare, Eriogonum fasciculatum		-116.96319648	32.58936737	81072		22.99	75.41	Poles	54	n/a
41982	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa sp., Foeniculum vulgare		-116.96317962	32.58934546	81072		23.80	78.09	Poles	54	n/a
41983	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Bromus diandrus, Stipa sp., Avena sp., Foeniculum vulgare		-116.96295497	32.58949180	81069		49.32	161.81	Poles	54	n/a
42782	Isocoma menziesii var. decumbens	13.0	2	100	0	0	Stipa pulcra	Open native grassland	-116.95623937	32.59170259	81063	buffer area	68.36	224.29	Poles	60	n/a
42786	Isocoma menziesii var. decumbens	10.0	3	100	0	0	Stipa pulchra	Open native grassland	-116.95615209	32.59173679	81061	buffer area	59.35	194.72	Poles	60	n/a
42788	Isocoma menziesii var. decumbens	3.0	2	100	0	0	Stipa pulchra, Avena sp.	Open native grassland	-116.95524658	32.59190976	81061	buffer area	35.06	115.01	Poles	60	n/a
42789	Isocoma menziesii var. decumbens	10.0	14	90	0	10	stipa pulcra	native grassland	-116.95455687	32.59178677	81060	buffer zone	64.07	210.21	Poles	61	n/a

42790	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum	Open native grassland	-116.95209166	32.59244616	81060	buffer area	67.85	222.60	Poles	63	n/a
42792	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum, Acmispon glaber	Native grassland transitioning to CSS	-116.94828005	32.59409286	81052	buffer area	45.32	148.68	Poles	66	n/a
42793	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum	road edge	-116.94780297	32.59457987	81052	buffer area	28.94	94.95	Poles	66	n/a
42794	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum, Acmispon glaber	Natuve grassland transitioning to CSS	-116.94828127	32.59407472	81052	buffer area	47.20	154.84	Poles	66	n/a
42795	Isocoma menziesii var. decumbens	1.5	1	100	0	0	Avena sp.	grassland	-116.94755875	32.59470863	81051, 81052	buffer area	52.36	171.79	Poles	67	n/a
42796	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum	Open native grassland	-116.94721054	32.59442317	81052	buffer area	65.06	213.46	Poles	67	n/a
42797	Isocoma menziesii var. decumbens	1.0	4	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum	Open native grassland	-116.94594303	32.59523881	81051	buffer area	40.60	133.20	Poles	68	n/a
42798	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa pulchra, Avena sp., Eriogonum fasciculatum	Open native grassland	-116.94603867	32.59515759	81052	buffer area	46.22	151.63	Poles	68	n/a
42803	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Bromus hordeaceus, Erodium botrys, Avena sp., Eriogonum fasciculatum	Grassland, CSS	-116.94660641	32.59558454	81049	buffer area	44.24	145.14	Poles	68	n/a
42804	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Bromus hordeaceus, Erodium botrys, Avena sp.	Grassland, CSS	-116.94679593	32.59554421	81049	buffer area	62.06	203.62	Poles	68	n/a
44383	Isocoma menziesii var. decumbens	6.0	3	100	0	0	b. sarothroides, ef, ac		-116.94101335	32.59821908		side of dirt road	27.17	89.13	Poles	74	n/a
44385	Isocoma menziesii var. decumbens	3.0	2	100	0	0	Erifas, blue eye grass, artcal		-116.93760253	32.59849826	82136	adjacent to road	38.53	126.41	Work Areas	n/a	SS 21
44783	Isocoma menziesii var. decumbens	4.0	9	100	0	0	Eriogonum fasciculatum, Artemisia californica, Stipa sp.		-116.93751261	32.59854720	82136		48.30	158.48	Work Areas	n/a	SS 21
45189	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Eriogonum fasciculatum, Artemisia californica		-116.93747422	32.59856984	82136		52.58	172.51	Work Areas	n/a	SS 21
45191	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Eriogonum fasciculatum, Acmispon glaber		-116.93749268	32.59847403	82136		47.89	157.11	Work Areas	n/a	SS 21
49182	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brschypodium distachyon, Stipa sp., Eriogonum fasciculatum	grassland	-116.97438617	32.58614691	81973	buffer zone	72.38	237.47	Poles	43	n/a
49184	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Avena sp., Foeniculum vulgare, Rhus integrifolia, Stipa sp.	grassland	-116.98291835	32.58478290	280402	pole buffer zone	118.33	388.22	Poles	36	n/a
49981	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Avena sp., Foeniculum vulgare	grassland	-116.96415593	32.58987087	SS15 AR		93.65	307.26	Poles	54	n/a
51181	Isocoma menziesii var. decumbens	10.0	9	100	0	0	Avena sp., Eriogonum fasciculatum, Salvia munzii	CSS	-116.95307486	32.59325520	AR north of 81058		71.17	233.50	Poles	62	n/a
51182	Isocoma menziesii var. decumbens	8.0	6	100	0	0	Eriogonum fasciculatum, Isocoma menziesii v. menziesii, Artemisia californica	CSS restoration	-116.94890672	32.59462993	81053		79.90	262.14	Poles	66	n/a
51982	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Avena barbata	NNG	-116.94527209	32.57955964	31749		45.60	149.61	Poles	107	n/a
51983	Isocoma menziesii var. decumbens	10.0	8	100	0	0	Avena sp., Salsola australis, Marrubium vulgare	grassland	-116.94530833	32.57926789	31749		20.08	65.89	Poles	107	n/a
52383	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Brachypodium distachyon, Avena sp., Marrubium vulgare, Convolvulus arvensis	grassland	-116.94530039	32.58157422	31745		17.97	58.96	Poles	104	n/a
52384	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Avena barbata	NNG	-116.94525538	32.57953620	31749		42.67	139.99	Poles	107	n/a
53581	Isocoma menziesii var. decumbens	1.0	1	100	0	0	non native grasses	adjacent to access road	-116.93961059	32.59603236	31726	buffer zone	30.67	100.64	Poles	79	n/a
53582	Isocoma menziesii var. decumbens	3.0	2	100	0	0	rhus integrifolia, ef, avena		-116.93962817	32.59596170	31726	buffer zone	26.31	86.33	Poles	79	n/a
53595	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Stipa	Vernal pool-native grassland	-116.93947086	32.58936277	31735	buffer zone	11.65	38.21	Poles	88	n/a
53611	Isocoma menziesii var. decumbens	10.0	5	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93968091	32.58278417	31743	buffer zone	31.64	103.82	Poles	96	n/a
53981	Isocoma menziesii var. decumbens	3.0	2	100	0	0	rhus integrifolia, ef, avena		-116.93977843	32.59603617	31726	buffer zone	38.78	127.23	Work Areas	n/a	n/a

53984	Isocoma menziesii var. decumbens	5.0	10	0	0	0	eriogonum fasiculatum		-116.93939707	32.59450129	31729	buffer zone	23.77	77.97	Poles	81	n/a
54010	Isocoma menziesii var. decumbens	2.0	1	100	0	0	Eriogonum fasciculatum, grasses		-116.93962488	32.58753347	31737	buffer zone	40.78	133.79	Poles	90	n/a
54381	Isocoma menziesii var. decumbens	1.0	1	100	0	0	Eriogonum fasciculatum, grasses		-116.93936100	32.59023041	31733	buffer zone	40.02	131.31	Poles	87	n/a
54792	Isocoma menziesii var. decumbens	10.0	10	100	0	0	Stipa, Avena barbata, Atriplex semibaccata, Eriogonum fasciculatum	grassland	-116.93950847	32.58281781	31743	buffer zone	16.65	54.61	Poles	96	n/a
55585	Isocoma menziesii var. decumbens	5.0	2	100	0	0	eriogonum fasiculatum	hillside	-116.93883283	32.59528130	193457	buffer zone	54.04	177.28	Poles	80	n/a
58784	Isocoma menziesii var. decumbens	8.0	5	100	0	0	Sd sunflower	On AR near pole 31728 open CSS on slope: tc = 1 Dgb = 5	-116.93948249	32.59472471	31728		7.35	24.12	Poles	81	n/a
17183	Iva hayesiana	1.0	1	100	0	0	Baccharis salicifolia, Salix lasiolepis	drainage, mulefat scrub	-117.02259356	32.58753188	188714		59.75	196.03	Poles	1	n/a
17598	Iva hayesiana	7.0	1	100	0	0	Salix exigua, Salix lasiolepis, Artemisia californica		-117.02003980	32.58846804	n/a	Access road	100.10	328.43	Work Areas	n/a	n/a
17990	Iva hayesiana	8.0	3	100	0	0	Arroyo willow	Slopes of riparian scrub at edge of css	-117.01952816	32.58772213	n/a	Access road bz	49.39	162.03	Work Areas	n/a	n/a
18785	Iva hayesiana	20.0	4	100	0	0	Rhus integrifolia, Foeniculum vulgare	patch radius runs north-south along drainage	-116.97748416	32.58619315	81976		55.01	180.49	Poles	41	n/a
18794	Iva hayesiana	25.0	40	100	0	0	None		-116.97588603	32.58700082	81975		41.10	134.83	Poles	42	n/a
18796	Iva hayesiana	5.0	3	100	0	0	Baccharis sarothroides, Carduus pycnocephalus		-116.97823604	32.58676341	81978		37.35	122.55	Poles	40	n/a
18797	Iva hayesiana	5.0	3	100	0	0	Baccharis satothroides, Chenopodium californicum		-116.97882695	32.58666421	81978		62.18	204.01	Poles	40	n/a
20381	Iva hayesiana	3.0	4	100	0	0	Stipa so, wild oat, blue eyed grass	In swale on hillside, dry souls on open native grassland	-116.95596812	32.59159880	81061	Row bz	56.27	184.61	Poles	60	n/a
21988	Iva hayesiana	10.0	2	100	0	0	Eriogonum fasciculatum, Salvia munzii, Artemisia californica	restoration area	-116.94307575	32.59849873	81968		28.02	91.92	Work Areas	n/a	SS 19
25981	Iva hayesiana	0.0	1	100	0	0	Eriogonum fasciculatum		-116.93880515	32.59789896	188730		49.88	163.64	Poles	76	n/a
41190	Iva hayesiana	3.0	1	100	0	0	None		-116.97956774	32.58651209	82224		28.50	93.50	Poles	39	n/a
41191	Iva hayesiana	3.0	1	100	0	0	None		-116.97972660	32.58642465	82224		36.03	118.22	Poles	39	n/a
40381	Juncus acutus ssp. leopoldii	2.0	1	0	100	0	Rcinus communis, Nicotiana glauca		-116.98312069	32.58577420	81097		23.15	75.94	Poles	36	n/a
44384	Juncus acutus ssp. leopoldii	1.0	1	100	0	0	Iva hayesiana, Baccharis sarothroides, Hesperocyparis forbesii		-116.94092064	32.59826761	731391		35.95	117.93	Poles	74	n/a
17607	Salvia munzii	10.0	4	25	0	75	Artemisia californica, Eriogonum fasciculatum	CSS	-117.02102342	32.58931879	access road		204.78	671.85	Poles	3	n/a
20389	Salvia munzii	10.0	2	0	100	0	Eriogonum fasciculatum, Artemisia californica	resoration area	-116.94878459	32.59445813	81052		66.31	217.54	Poles	66	n/a
21981	Salvia munzii	5.0	2	100	0	0	Eriogonum fasciculatum, Artemisia californica	5 feet from access road	-116.94456279	32.59706652	731604		59.02	193.62	Poles	70	n/a
21982	Salvia munzii	0.0	1	100	0	0	None		-116.94652943	32.59564710	81049		38.01	124.72	Poles	68	n/a
21983	Salvia munzii	4.0	2	100	0	0	None		-116.94679138	32.59552026	81051		61.80	202.76	Poles	68	n/a
21984	Salvia munzii	2.0	1	100	0	0	Eriogonum fasciculatum, NNG	restoration area between access roads	-116.94684009	32.59541428	81051		52.56	172.45	Poles	67	n/a
21986	Salvia munzii	1.0	1	100	0	0	Artcal, erifas	Restored	-116.94419155	32.59758562	731604	1ft from AR	15.15	49.71	Poles	70	n/a
21987	Salvia munzii	4.0	4	0	0	25	None		-116.94387273	32.59771048	731604		16.07	52.72	Work Areas	n/a	SS 18
22381	Salvia munzii	1.5	1	100	0	0	Erifas, artcal, eromas	Restored habitat	-116.94462514	32.59709024	731392	4ft from AR	61.38	201.38	Poles	70	n/a
22382	Salvia munzii	0.0	1	100	0	0	None		-116.94668136	32.59559374	81031		51.33	168.40	Poles	68	n/a
22383	Salvia munzii	1.0	1	100	0	0	Baccharis sarothroides, Salvia munzii, Eriogonum fasciculatum	restoration area	-116.94301347	32.59856392	81968		32.20	105.65	Work Areas	n/a	SS 19
44392	Salvia munzii	2.5	1	100	0	0	Eriogonum fasciculatum, Artemisia californica, Erodium botrys		-116.94462432	32.59689169	731392		60.10	197.17	Poles	69	n/a
44789	Salvia munzii	1.5	1	100	0	0	Erifas, artcal	Restored habitat	-116.94526602	32.59694679	731392		48.01	157.51	Poles	69	n/a

45196	Salvia munzii	8.0	3	100	0	0	Eriogonum fasciculatum, Baccharis sarothroides	CSS slope	-116.94099571	32.59842521	731391		35.41	116.19	Poles	74	n/a
45197	Salvia munzii	4.0	1	100	0	0	Artcal, erifas	Restored	-116.94414738	32.59768029	731604		24.72	81.11	Poles	70	n/a
50383	Salvia munzii	6.0	2	0	100	0	Avena sp., Eriogonum fasciculatum	CSS	-116.95555361	32.59259407	AR across from 81061		65.76	215.74	Poles	60	n/a
50384	Salvia munzii	2.0	1	0	100	0	Eriogonum fasciculatum, Artemisia californica, Isocoma menziesii	resoration area	-116.94899931	32.59453624	81053		77.53	254.38	Poles	65	n/a
50782	Salvia munzii	10.0	3	0	100	0	Avena sp., Eriogonum fasciculatum	CSS	-116.95465364	32.59279473	AR across from 81061		64.51	211.66	Poles	61	n/a
50783	Salvia munzii	2.0	1	0	100	0	Avena sp., Eriogonum fasciculatum	CSS	-116.95453400	32.59283239	AR across from 81061		62.77	205.94	Poles	61	n/a
50784	Salvia munzii	12.0	4	0	100	0	Avena sp., Eriogonum fasciculatum	CSS	-116.95438166	32.59284196	AR across from 81061		59.65	195.69	Poles	61	n/a
19983	Selaginella cinerascens	5.0	1	100	0	0	Artemisia californica	2 patches, crypto soils	-116.95915891	32.59091396	81066		52.21	171.28	Poles	57	n/a
15980	Viguiera laciniata	0.0	4	100	0	0	California buckwheat	Disturbed CSS on hillside west facing slope sandy silt. Open scrub	-117.00617705	32.58512898	183226	Buffer	60.95	199.98	Poles	15	n/a
16380	Viguiera laciniata	0.0	1	100	0	0	California sagebrush, white sage, four Wong saltbush	Growing in open CSS disturbed on north facing slope	-117.01162018	32.58571517	186082	Row bz	24.46	80.24	Work Areas	n/a	SS 3
16381	Viguiera laciniata	0.0	1	100	0	0	Cal sagebrush, white sage	Open CSS disturbed,sandy silty soils	-117.01156192	32.58575360	186082	Row bz	21.76	71.41	Work Areas	n/a	SS 3
16382	Viguiera laciniata	0.0	1	100	0	0	Cal sagebrush	Open CSS disturbed sandy silty soils	-117.01143896	32.58580494	186082	Row bz	19.27	63.21	Work Areas	n/a	SS 3
24786	Viguiera laciniata	3.0	3	10	0	90	isocoma decumebens	between access roads	-116.93956107	32.59478498	31728	buffer zone	16.55	54.30	Poles	81	n/a
37583	Viguiera laciniata	1.0	1	0	100	0	Foeniculum vulgare, Avena sp., Peritoma arborea		-117.02066815	32.58751706	188716		17.90	58.73	Poles	3	n/a
41581	Viguiera laciniata	6.0	3	100	0	0			-116.97390018	32.58653304	81973	buffer zone	40.94	134.33	Poles	43	n/a
41586	Viguiera laciniata	1.0	1	100	0	0	Encelia californica, Artemesia californica		-116.96581529	32.58811907	118864		4.97	16.29	Work Areas	n/a	n/a
48381	Viguiera laciniata	10.0	12	100	0	0	Artemisia californica, Simmondsia chinensis, Eriogonum fasciculatum	CSS	-117.00101085	32.58482344	188917		21.29	69.85	Work Areas	n/a	SS 7
48781	Viguiera laciniata	1.0	1	100	0	0	encelia californica, s. chiensis		-116.99624154	32.58534069	180894	buffer zone	26.39	86.57	Work Areas	n/a	SS 9
49186	Viguiera laciniata	10.0	6	70	0	30	rhus integrifolia, fennel		-116.98294496	32.58462663	280402	pole buffer zone	135.70	445.20	Poles	36	n/a
51183	Viguiera laciniata	6.0	4	100	0	0	Eriogonum fasciculatum, Isocoma menziesii v. menziesii, Artemisia californica, Isocoma menziesii v. decumbens	CSS restoration	-116.94872616	32.59471806	81052		66.95	219.66	Poles	66	n/a
53982	Viguiera laciniata	3.0	1	0	100	0	non native grasses, artcal. Salapi		-116.93975015	32.59573116	31726	buffer zone	33.55	110.06	Poles	79	n/a
53986	Viguiera laciniata	1.0	1	0	100	0	avena		-116.93954558	32.59442442	31729	road buffer	27.66	90.73	Poles	82	n/a

APPENDIX C – WILDLIFE SPECIES OBSERVED/DETECTED

Scientific name	Common Name	Special Status
INVERTEBRATES		
Class: Insecta	**Insects**	
Order: Lepidoptera	**Butterflies**	
Family: Lycaenidae	**Gossamer Wings**	
Callophrys thornei	Thorne's Hairstreak	NCCP-covered
VERTEBRATES		
Class Sauropsida	**Reptiles**	
Order Squamata	**Lizards and Snakes**	
Family Phrynosomatidae	**Spiny Lizards**	
Sceloporus occidentalis	Western Fence Lizard	
Uta stansburiana	Common Side-blotched Lizard	
Family Teiidae	**Whiptails**	
Cnemidophorus hyperythrus	Orange-throated Whiptail	SSC, NCCP-covered
Cnemidophorus tigris stejnegeri	Coastal Western Whiptail	
Family Colubridae	**Egg-laying Snakes**	
Lampropeltus getulus californiae	California Kingsnake	
Class Aves	**BIRDS**	
Order Anseriformes	**Geese,Swans, and Ducks**	
Anas platyrhynchos	Mallard	
Order Galliformes	**Gallinaceous Birds**	
Family Odontophoridae	**New World Quail**	
Callipepla californica	California Quail	
Order Podicipediformes	**Grebes**	
Podilymbus podiceps	Pied-billed Grebe	
Order Pelecaniformes	**Totipalmate Birds**	
Family Phalacrocoracidae	**Cormorants**	
Phalacrocorax auritus	Double-crested Cormorant	WL
Order Ciconiiformes	**Herons, Ibises, Storks, American Vultures, and Allies**	
Family Ardeidae	**Herons, Bitterns, and Allies**	
Ardea herodias	Great Blue Heron	
Egretta thula	Snowy Egret	
Butorides virescens	Green Heron	
Family Threskiornithidae	**Ibises**	
Plegadis chihi	White-faced Ibis	WL, NCCP-covered
Family Cathartidae	**New World Vultures**	
Cathartes aura	Turkey Vulture	
Order Falconiformes	**Diurnal Birds of Prey**	

Scientific name	Common Name	Special Status
Family Accipitridae	**Hawks, Kites, Eagles, and Allies**	
Pandion haliaetus	Osprey	WL
Elanus leucurus	White-tailed Kite	FP, WL
Circus cyaneus	Northern Harrier	SSC
Accipiter cooperii	Cooper's Hawk	WL, NCCP-covered
Buteo lineatus	Red-shouldered Hawk	
Buteo jamaicensis	Red-tailed Hawk	
Family Falconidae	**Falcons**	
Falco sparverius	American Kestrel	
Order Gruiformes	**Rails, Cranes, and Allies**	
Family Rallidae	**Rails, Gallinules, and Coots**	
Rallus limicola	Virginia Rail	
Gallinula galeata	Common Gallinule	
Fulica americana	American Coot	
Order Charadriiformes	**Shorebirds, Gulls, Auks, and Allies**	
Family Charadriidae	**Plover**	
Charadrius vociferus	Killdeer	
Family Laridae	**Gulls, Terns, and Skimmers**	
Larus occidentalis	Western Gull	
Order Columbiformes	**Pigeons and Doves**	
Family Columbidae	**Pigeons and Doves**	
Columba livia	Rock Pigeon	I
Zenaida macroura	Mourning Dove	
Order Cuculiformes	**Cuckoos and Allies**	
Family Cuculidae	**Cuckoos and Roadrunners**	
Geococcyx californianus	Greater Roadrunner	
Order Strigiformes	**Owls**	
Family Tytonidae	**Barn Owls**	
Tyto alba	Barn Owl	
Order Caprimulgiformes	**Goatsuckers and Allies**	
Family Caprimulgidae	**Goatsuckers**	
Chordeiles acutipennis	Lesser Nighthawk	
Order Apodiformes	**Swifts and Hummingbirds**	
Family Apodidae	**Swifts**	
Aeronautes saxatalis	White-throated Swift	
Family Trochilidae	**Hummingbirds**	
Calypte anna	Anna's Hummingbird	
Calypte costae	Costa's Hummingbird	

Scientific name	Common Name	Special Status
Selasphorus sasin	Allen's Hummingbird	USFWS BCC
Order Piciformes	**Woodpeckers and Allies**	
Family Picidae	**Woodpeckers**	
Melanerpes formicivorus	Acorn Woodpecker	
Picoides nuttallii	Nuttall's Woodpecker	
Picoides pubescens	Downy Woodpecker	
Colaptes auratus	Northern Flicker	
Order Passeriformes	**Perching Birds**	
Family Tyrannidae	**Tyrant Flycatchers**	
Contopus cooperi	Olive-sided Flycatcher	SSC
Empidonax difficilis	Pacific-slope Flycatcher	
Sayornis nigricans	Black Phoebe	
Sayornis saya	Say's Phoebe	
Myiarchus cinerascens	Ash-throated Flycatcher	
Tyrannus vociferans	Cassin's Kingbird	
Tyrannus verticalis	Western Kingbird	
Family Vireonidae	**Vireos**	
Vireo bellii pusillus	Least Bell's Vireo	SE, FE, NCCP-covered
Vireo huttoni	Hutton's Vireo	
Family Corvidae	**Crows and Jays**	
Aphelocoma californica	Western Scrub-Jay	
Corvus brachyrhynchos	American Crow	
Corvus corax	Common Raven	
Family Alaudidae	**Larks**	
Eremophila alpestris actia	California Horned Lark	WL
Family Hirundinidae	**Swallows**	
Tachycineta bicolor	Tree Swallow	
Stelgidopteryx serripennis	Northern Rough-winged Swallow	
Hirundo pyrrhonota	Cliff Swallow	
Family Aegithalidae	**Bushtits**	
Psaltriparus minimus	Bushtit	
Family Troglodytidae	**Wrens**	
Salpinctes obsoletus	Rock Wren	
Thryomanes bewickii	Bewick's Wren	
Troglodytes aedon	House Wren	
Cistothorus palustris clarkae	Clark’s Marsh Wren	SSC
Family Sylviidae	**Gnatcatchers**	
Polioptila caerulea	Blue-gray Gnatcatcher	

Scientific name	Common Name	Special Status
Polioptila californica californica	Coastal California Gnatcatcher	FT, SSC, NCCP-covered
Family Turdidae	**Thrushes**	
Sialia mexicana	Western Bluebird	
Catharus guttatus	Hermit Thrush	
Family Timaliidae	**Babblers**	
Chamaea fasciata	Wrentit	
Family Mimidae	**Mockingbirds and Thrashers**	
Mimus polyglottos	Northern Mockingbird	
Toxostoma redivivum	California Thrasher	
Family Sturnidae	**Starlings**	
Sturnus vulgaris	European Starling	I
Family Ptilogonatidae	**Silky-flycatchers**	
Phainopepla nitens	Phainopepla	
FamilyParulidae	**Wood-Warblers**	
Vermivora celata	Orange-crowned Warbler	
Dendroica petechia brewsteri	Yellow Warbler	SSC*
Geothlypis trichas	Common Yellowthroat	
Wilsonia pusilla	Wilson's Warbler	
Icteria virens	Yellow-breasted Chat	SSC
Family Emberizidae	**Embrezids**	
Pipilo maculatus	Spotted Towhee	
Pipilo crissalis	California Towhee	
Aimophila ruficeps canescens	Southern California Rufous-crowned Sparrow	WL, NCCP-covered
Ammodramus savannarum	Grasshopper Sparrow	SSC, NCCP-covered
Zonotrichia leucophrys	White-crowned Sparrow	
Family Cardinalidae	**Cardinals and Allies**	
Pheucticus melanocephalus	Black-headed Grosbeak	
Passerina caerulea	Blue Grosbeak	
Family Icteridae	**Blackbirds**	
Agelaius phoeniceus	Red-winged Blackbird	
Sturnella neglecta	Western Meadowlark	
Euphagus cyanocephalus	Brewer's Blackbird	
Molothrus ater	Brown-headed Cowbird	
Icterus cucullatus	Hooded Oriole	
Icterus bullockii	Bullock's Oriole	
Family Fringillidae	**Fringilline and Cardueline Finches and Allies**	
Carpodacus mexicanus	House Finch	

Scientific name	Common Name	Special Status
Carduelis psaltria	Lesser Goldfinch	
Carduelis lawrencei	Lawrence's Goldfinch	
Carduelis tristis	American Goldfinch	
Class Mammalia	**MAMMALS**	
Order Lagomorpha	**Rabbits, Hares and Pikas**	
Family Leporidae	**Rabbits and Hares**	
Sylvilagus audubonii	Desert Cottontail	
Sylvilagus bachmani	Brush Rabbit	
Lepus californicus bennettii	San Diego Black-tailed Jackrabbit	SSC
Order Rodentia	**Rodents**	
Family Sciuridae	**Squirrels and Chipmunks**	
Spermophilus beecheyi	California Ground Squirrel	
Family Geomyidae	**Pocket Gophers**	
Thomomys bottae	Botta's Pocket Gopher	
Family Heteromyidae	**Pocket Mice and Kangaroo Rats**	
Dipodomys simulans	Dulzura Kangaroo Rat	
Family Muridae	**Mice, Rats and Voles**	
Peromyscus maniculatus	Deer Mouse	
Neotoma macrotis	Big-eared Woodrat	
Order Carnivora	**Carnivores**	
Family Canidae	**Dogs and foxes**	
Canis latrans	Coyote	
Urocyon cinereoargenteus	Gray Fox	
Order Artiodactyla	**Even-Toed ungulates**	
Family Cervidae	**Deer and Elk**	
Odocoileus hemionus	Mule Deer	
Family Bovidae	**Bison, Goats & Sheep**	
Bos taurus	Cattle	I

I= Introduced Species
X= Extirpated
*=species with extremely limited distributions or see species account notes on distribution
FE= Federally Endangered

FT= Federally Threatened
SE= State Endangered
ST= State Threatened
SSC= CDFG Species of Special Concern
WL= CDFG List of Taxa to Watch
FP= CDFG Fully Protected

APPENDIX D – SENSITIVE PLANT SPECIES DESCRIPTIONS

San Diego thorn-mint (*Acanthomintha ilicifolia*) FT, CE, CRPR 1B.1, NCCP-covered

San Diego thorn-mint is an annual herb in the Lamiaceae family that flowers between April and June. This species often grows in vernal pools, clay, openings, chaparral, valley and foothill grassland, and coastal sage scrub habitats. San Diego thorn-mint can be found at elevations between 33 and 3,150 feet (10-960 m) amsl. Approximately one-third of the historical occurrences in California have been extirpated; this species is threatened by urbanization, road construction, vehicles, grazing, trampling, foot traffic, recreational activities, erosion, and non-native plants (CNPS 2014).

San Diego thorn-mint is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area. This species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Nuttall’s acmispon (*Acmispon prostratus*) CRPR 1B.1, NCCP-covered

Nuttall’s acmispon is an annual herb in the Fabaceae family that flowers between March and July. This species often grows in coastal scrub (sandy) and coastal dune habitats. Nuttall’s acmispon can be found at elevations less than 33 feet (0 to 10 meters) amsl. This species is threatened by development, competition from non-native plants, and land management activities, with possible threats including foot traffic, vehicles, and illegal dumping (CNPS 2014).

Nuttall’s acmispon is presumed absent within the Survey Area. This species is restricted to coastal dune habitats. Suitable habitat for this species was not present within the Survey Area. Historic records have been recorded within 5 miles of the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

California adolphia (*Adolphia californica*) CRPR 2B.1

California adolphia is a perennial deciduous shrub in the Rhamnaceae family that flowers between December and May. This species often grows in clay, coastal scrub, chaparral, and valley and foothill habitats. California adolphia can be found at elevations between 148 and 2,427 feet (45 to 740 meters) amsl. This species is threatened by urbanization, road construction, competition from non-native plants, and grazing (CNPS 2014).

California adolphia was observed within the Survey Area; 16 individuals were observed within a drainage growing alongside San Diego marsh elder and San Diego bursage.

San Diego bur-sage (*Ambrosia chenopodiifolia*) CRPR 2B.1

San Diego bur-sage is a perennial shrub in the Asteraceae family that flowers between the months of April and June. This species often grows in coastal scrub. San Diego bur-sage can be found at elevations between 180 and 508 feet (55 to 155 meters) amsl. This species is known in California from fewer than 15 occurrences and is threatened by development (CNPS 2014).

San Diego bur-sage was observed widespread within the Survey Area. Chambers Group mapped 213 individuals found in a variety of habitats such as coastal sage scrub and drainages and near access roads.

Singlewhorl burrobush (*Ambrosia monogyra*) CRPR 2B.2

Singlewhorl burrobush is a perennial shrub in the Asteraceae family that flowers between August and November. This species often grows in sandy, chaparral, and Sonoran desert scrub habitats. Singlewhorl burrobush can be found at elevations between 36 and 1,640 feet (10 to 500 meters) amsl. This species is possibly threatened by trail maintenance and non-native plants. (CNPS 2014).

Singlewhorl burrobush was observed widespread within the Survey Area. Chambers Group mapped 1,407 individuals in a variety of habitats such as coastal sage scrub, maritime succulent scrub, and washes and within disturbed areas.

San Diego ambrosia (*Ambrosia pumila*) FE, CRPR 1B.1, NCCP-covered

San Diego ambrosia is a perennial rhizomatous herb in the Asteraceae family that flowers between April and October. This species often grows in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. San Diego ambrosia can be found at elevations less than 1,360 feet (20 to 415 meters) amsl. This species is threatened by development, non-native plants, vehicles, road maintenance, and foot traffic (CNPS 2014).

San Diego ambrosia is presumed absent within the Survey Area. Suitable habitat for this species is present, and historical records have recorded this species within the Survey Area. This species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Otay manzanita (*Arctostaphylos otayensis*) CRPR 1B.2, NCCP-covered

Otay manzanita is a perennial evergreen shrub in the Ericaceae family that flowers between January and April. This species often grows in metavolcanic, chaparral, and cismontane woodland habitats. Otay manzanita can be found at elevations between 986 and 5,576 feet (275 to 1,700 meters) amsl. Historical occurrences need field surveys. This species is threatened by development and frequent wildfires (CNPS 2014).

One Otay manzanita was observed within the Survey Area near an access road within an area that appears to be undergoing habitat restoration.

Dean’s milk-vetch (*Astragalus deanei*) CRPR 1B.1

Dean’s milk-vetch is a perennial herb in the Fabaceae family that flowers between February and May. This species often grows in chaparral, cismontane woodland, coastal scrub, and riparian forest habitats. Dean’s milk-vetch can be found at elevations between 250 and 2,280 feet (75 to 695 meters) amsl. This species is known from fewer than 15 occurrences. Dean’s milk-vetch is seriously threatened by development, vegetation/fuel management activities, foot traffic, non-native plants, and road maintenance (CNPS 2014).

Dean’s milk-vetch is presumed absent within the Survey Area. Although suitable habitat for this species is present within the Survey Area, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Coulter's saltbush (*Atriplex coulteri*) CRPR 1B.2

Coulter's saltbush is a perennial herb in the Chenopodiaceae family that flowers between March and October. This species often grows in alkaline or clay soils, coastal dunes, coastal scrub, and coastal bluff scrub. Coulter's saltbush can be found at elevations between 10 and 1,500 feet (3 to 460 meters) amsl. A few recent sightings and reports from Riverside County are likely misidentified. This species is threatened by development and probably by feral herbivores (CNPS 2014).

Coulter's saltbush is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

South coast saltscale (*Atriplex pacifica*) CRPR 1B.2

South coast saltscale is an annual herb in the Chenopodiaceae family that flowers between March and October. This species often grows in coastal bluff scrub, dunes, and playa habitats. South coast saltscale can be found at elevations less than 460 feet (0 to 140 meters) amsl. This species is considered rare throughout its range, and many known occurrences are extirpated or need more information. South coast saltscale has been greatly reduced by urbanization (CNPS 2014).

South coast saltscale is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Encinitas baccharis (*Baccharis vanessae*) FT, CE, CRPR 1B.1, NCCP-covered

Encinitas baccharis is a perennial deciduous shrub in the Asteraceae family that flowers between August and November. This species often grows in sandstone, chaparral (maritime), and cismontane woodland habitats. Encinitas baccharis can be found at elevations between 200 and 2,360 feet (60 to 720 meters) amsl. This species is extirpated from the Encinitas area. Encinitas baccharis is threatened by development, foot traffic, and recreation and possibly threatened by competition with non-native plants (CNPS 2014).

Encinitas baccharis is presumed absent from BLM lands within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Golden-spined cereus (*Bergerocactus emoryi*) CRPR 2B.2

Golden-spined cereus is a perennial stem succulent in the Cactaceae family that flowers between May and June. This species often grows in sandy, closed-cone coniferous forest, chaparral, and coastal scrub. Golden-spined cereus can be found at elevations between 10 and 1,300 feet (3 to 395 meters) amsl. This species is threatened by development, horticultural collecting, and feral goats (CNPS 2014).

Golden-spined cereus was observed within the Survey Area. Chambers Group mapped 184 individuals located within the restored maritime succulent scrub within the Dennery Canyon Habitat Restoration Project found within the Survey Area.

San Diego goldenstar (*Bloomeria clevelandii*) CRPR 1B.1, NCCP-covered

San Diego goldenstar is a perennial bulbiferous herb in the Themidaceae family that flowers between April and May. This species often grows in clay, chaparral, valley and foothill grassland, coastal scrub, and vernal pool habitats. San Diego goldenstar can be found at elevations between 164 and 1,525 feet (50 to 465 meters) amsl. This species is threatened by urbanization, road construction, vehicles, non-native plants, and illegal dumping (CNPS 2014).

San Diego goldenstar was observed within the Survey Area. Chambers Group mapped 20 individuals within the San Diego Mesa Claypan Vernal Pool habitat within the Survey Area. This habitat is considered sensitive.

Orcutt's brodiaea (*Brodiaea orcuttii*) CRPR 1B.1, NCCP-covered

Orcutt's brodiaea is a perennial bulbiferous herb in the Themidaceae family that flowers between May and July. This species often grows in mesic, clay, sometimes serpentine habitats, including closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Orcutt's brodiaea can be found at elevations between 98 and 5,560 feet (30 to 1,695 meters) amsl. Historical occurrences need field surveys. This species is seriously threatened by development, foot traffic, grazing, non-native plants, military activities, vehicles, road construction, road maintenance, and dumping (CNPS 2014).

Orcutt’s brodiaea is presumed absent from BLM lands within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Round-leaved filaree (*California macrophylla*) CRPR 1B.1

Round-leaved filaree is an annual herb in the Geraniaceae family that flowers between March and May. This species often grows in cismontane woodland, valley and foothill grassland habitats. Round-leaved filaree can be found at elevations between 50 and 3,930 feet (15 to 1,200 meters) amsl. This species is threatened by urbanization, habitat alteration, vehicles, pipeline construction, feral pigs, and competition with non-native plants and is potentially threatened by grazing (CNPS 2014).

Round-leaved filaree is presumed absent from BLM lands within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Dunn's mariposa lily (*Calochortus dunnii*) RARE, CRPR 1B.2, NCCP-covered

Dunn's mariposa lily is a perennial, bulbiferous herb in the Liliaceae family that flowers between February and June. This species often grows in gabbroic or metavolcanic soils and rocky, closed-cone, coniferous forest, chaparral, and valley and foothill grassland. Dunn's mariposa lily can be found at elevations between 600 and 6,000 feet (185 to 1,830 meters) amsl. This species is threatened by development, non-native plants, and vehicles (CNPS 2014). Dunn's mariposa lily is considered sensitive by the BLM.

Dunn's mariposa lily is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Lakeside ceanothus (*Ceanothus cyaneus*) CRPR 1B.2

Lakeside ceanothus is an evergreen shrub in the Rhamnaceae family that flowers between April and June. This species often grows in sandy or rocky openings of closed-cone coniferous forests and chaparral habitats. Lakeside ceanothus can be found at elevations between 770 and 2,550 feet (235 to 777 meters) amsl. This species is threatened by development and potentially threatened by frequent wildfires (CNPS 2014).

Lakeside ceanothus is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Otay Mountain ceanothus (*Ceanothus otayensis*) CRPR 1B.2

Otay Mountain ceanothus is a perennial evergreen shrub in the Rhamnaceae family that flowers between January and April. This species is generally found in chaparral habitats (metavolvanic or gabbroic) at elevations between 394 and 3,609 feet (120 to 1,100 meters) amsl and may be restricted to metavolcanic and gabbroic soils. Otay Mountain ceanothus is threatened by alteration of fire regimes and possibly by Border Patrol activities (CNPS 2014).

One Otay Mountain ceanothus was observed within the Survey Area near an access road within an area that appears to be undergoing habitat restoration.

Wart-stemmed ceanothus (*Ceanothus verrucosus*) CRPR 2B.2, NCCP-covered

Wart-stemmed ceanothus is a perennial evergreen shrub in the Rhamnaceae family that flowers between January and April. This evergreen shrub is usually found in chaparral habitats at elevations below 1,246 feet (380 meters) amsl. When present, wart-stemmed ceanothus is typically the dominant shrub (CNPS 2014). This species is threatened by development (CNPS 2014).

Lakeside ceanothus is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum*) FE, CE, CRPR 1B.2, NCCP-covered

Salt marsh bird's-beak is an annual herb in the Orobanchaceae family that flowers between May and October. This federally listed endangered species is associated with coastal salt marshes and coastal dunes in elevations below 98 feet (0 to 30 meters) amsl. Salt marsh bird's-beak is threatened by loss of habitat, non-native plant species, recreational activity, hydrological alterations, and vehicles (CNPS 2014).

Salt marsh bird's-beak is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) CRPR 1B.2

Long-spined spineflower is an annual herb in the Polygonaceae family that flowers between April and July. This species often grows in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Long-spined spineflower can be found at elevations between 100 and 5,020 feet (30 to 1,530 meters) amsl. Much of its habitat has been lost to development. This species is threatened by competition from non-native grasses, recreational activities, vehicles, and grazing (CNPS 2014).

Long-spined spineflower is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Delicate clarkia (*Clarkia delicata*) CRPR List 1B.2

Delicate clarkia is an annual herb in the Onagraceae family that flowers between April and June. This species often grows in gabbroic soils in chaparral and cismontane woodland. Delicate clarkia can be found at elevations between 770 and 3,280 feet (234 to 1,000 meters) amsl. This species is threatened by development, non-native plants, road improvement/maintenance, and vehicles and potentially threatened by frequent wildfires (CNPS 2014).

Delicate clarkia is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

San Miguel savory (*Clinopodium chandleri*) CRPR 1B.2

San Miguel savory is a perennial scrub in the Lamiaceae family that flowers between March and July. This species is often found growing on in rocky, gabbroic or metavolcanic soils in chaparral, cismontaine woodland, coastal scrub, riparian woodland, and valley and foothill grassland habitats below 3,600 feet (120 to 1,075 meters) amsl. San Miguel savory is threatened by residential development, foot traffic, agriculture, and recreational activities and possibly threatened by horticultural collecting (CNPS 2014).

San Miguel savory is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Summer holly (*Comarostaphylis diversifolia* subsp. *diversifolia*) CRPR 1B.2

Summer holly is a perennial evergreen shrub in the Ericaceae family that flowers between April and June. This shrub occurs in chaparral and cismontane habitats at elevations between 328 and 1,804 feet (100 and 550 meters) amsl. Summer holly is threatened by development and gravel mining (CNPS 2014).

Summer holly is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Snake cholla (*Cylindropuntia californica*) CRPR 1B.1, NCCP-covered

Snake cholla is a perennial stem succulent in the Cactaceae family that flowers between April and May. This cactus species is almost always found on the coast in chaparral and coastal scrub habitats. Snake cholla typically occurs at elevations between 98 and 492 feet (30 to 150 meters) amsl. This species is threatened by development and vehicles (CNPS 2014).

Snake cholla is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Otay tarplant (*Deinandra conjugens*) FT, CE, CRPR 1B.1, NCCP-covered

Otay tarplant is an annual herb in the Asteraceae family that flowers between May and June. This species grows on clay soils within coastal scrub and valley and foothill grassland habitats. Otay tarplant is found at elevations between 80 and 980 feet (25 to 300 meters) amsl. This species is threatened by development, agriculture, vehicles, illegal dumping, foot traffic, non-native plants, habitat disturbance, and Border Patrol activities and possibly threatened by landfill construction (CNPS 2014).

Otay tarplant was observed within the Survey Area. Chambers Group observed 41 individuals in disturbed open areas throughout the tie line. This species is covered under the San Diego NCCP.

Orcutt's bird's-beak (*Dicranostegia orcuttiana*) CRPR 2B.1

Orcutt's bird's-beak is an annual herb in the Orobanchaceae family that flowers between March and September. This species typically occurs in coastal scrub habitats at elevations below 1,148 feet (10 to 350meters) amsl. Orcutt's bird's-beak is seriously threatened by urbanization as well as trail widening and competition with non-native plants (CNPS 2014).

Orcutt's bird's-beak is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Variegated dudleya (*Dudleya variegata*) CRPR 1B.2, NCCP-covered

Variegated dudleya is a perennial herb in the Crassulaceae family that flowers from April to June. This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet (3 to 580 meters) amsl. This species is threatened by development and grazing and possibly threatened by competition with non-native plants (CNPS 2012).

Variegated dudleya is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Palmer's Goldenbush (*Ericameria palmeri* var. *palmeri*) CNPS 1B.1, NCCP-covered NE

Palmer's goldenbush is a perennial, evergreen shrub in the Asteraceae family that flowers from July through November. This species is found in mesic soils within chaparral and coastal scrub habitats. The elevation range of this species ranges between 98 and 1,970 feet (30 to 600 m) amsl. Threats to this species include development, road construction, road maintenance, and vehicles (CNPS 2011).

Palmer's goldenbush is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

San Diego button-celery (*Eryngium aristulatum* var. *parishii*) FE, CE, CRPR 1B.1, NCCP-covered

San Diego button-celery is an annual/perennial herb in the Apiaceae family that flowers between April and June. This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet (20 to 620 meters) amsl. This species is threatened by agriculture, urbanization, road maintenance, grazing, vehicles, illegal dumping, competition from non-native plants, and foot traffic (CNPS 2014).

San Diego button-celery was observed within the Survey Area. Chambers Group mapped 12 individuals within the San Diego Mesa Claypan Vernal Pool habitat within the Survey Area. This habitat is considered sensitive. This species is covered under the San Diego NCCP.

Cliff spurge (*Euphorbia misera*) CRPR 2B.2

Cliff spurge is a perennial shrub in the Euphorbiaceae family that flowers between December and August. It is found on rocky slopes and coastal bluffs in coastal, coastal bluff, and Mojavean desert scrub between 33 and 1,640 feet (10 to 500 meters) amsl. Cliff spurge is threatened by development and non-native plant species (CNPS 2014).

Cliff spurge was observed within the Survey Area. Chambers Group mapped 10 individuals within the restored maritime succulent scrub habitat within the Dennery Canyon Habitat Restoration Project found within the Survey Area.

San Diego barrel cactus (*Ferocactus viridescens*) CRPR 2B.1, NCCP-covered

San Diego barrel cactus is a perennial stem succulent in the Cactaceae family that flowers between May and June. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley and foothill grassland habitats at elevations between 10 and 1,476 feet (3 to 450 meters) amsl. San Diego barrel cactus is threatened by urbanization, vehicles, horticultural collecting, agriculture, and competition with non-native plant species (CNPS 2014).

San Diego barrel cactus was observed widespread within the Survey Area in a variety of habitats such as maritime succulent scrub, native grasslands, coastal sage scrub, and many others. Chambers Group mapped 363 individuals along the entirety of the tie-line. This species is covered under the San Diego NCCP.

Mexican flannelbush (*Fremontodendron mexicanum*) FE, CR, CRPR 1B.1

Mexican flannelbush is a perennial evergreen shrub in the Malvaceae family that flowers between March and June. This speciesis found growing in gabbroic, metavolcanic, or serpentinite soils of cismontane woodland, chaparral, and closed-cone conifer forest habitats at elevations between 33 and

2,349 feet (10 and 716 meters) amsl. As of 1993, fewer than 100 plants remain of the Mexican flannelbush (CNPS 2014). This species is threatened by urbanization (CNPS 2014).

Mexican flannelbush is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Tecate cypress (*Hesperocyparis forbesii*) CRPR 1B.1, NCCP-covered

Tecate cypress is a perennial, evergreen tree in the Cupressaceae family. This species often grows in clay, gabrroic, or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Tecate cypress can be found at elevations between 262 and 4,920 feet (80 to 1,500 meters) amsl. This species is threatened by alteration of fire regimes and mining and by development in Orange and Riverside counties. Much of this species is planted. In San Diego County, Tecate cypress is protected in part at Otay Mountain (CNPS 2014).

Tecate cypress was observed within the Survey Area. Chambers Group mapped 1,009 individuals within a large dry wash that serves as a restoration site. This species is covered under the San Diego NCCP.

Beach goldenaster (*Heterotheca sessiliflora* subsp. *sessiliflora*) CRPR 1B.1

Beach goldenaster is a herbaceous perennial in the Asteraceae family that flowers between March and December. This species is commonly found on chaparral, coastal dunes, and coastal scrub habitats below 4,018 feet (0 to 1,225 meters) amsl. The beach goldenaster is nearly extirpated throughout San Diego County due to development (Reiser 1994).

Beach goldenstar is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*) CRPR 1B.2

Decumbent goldenbush is a perennial shrub in the Asteraceae family that flowers between April and November. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat at elevations between 49 and 443 feet (10 to 135 meters). Decumbent goldenbush is threatened by development (CNPS 2014).

Decumbent goldenbush was observed widespread within the Survey Area. Chambers Group mapped 630 individuals in a variety of habitats such as coastal sage scrub, native and non-native grasslands, and many others along the entire tie line.

San Diego marsh-elder (*Iva hayesiana*) CRPR 2B.2

San Diego marsh-elder is a perennial herb to subshrub in the Asteraceae family that flowers between April and October. This rhizomatous subshrub is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations between 33 and 1,640 feet (10 to 500 meters) amsl. Waterway channelization, coastal development, non-native plant species, and vehicle traffic are threats to the San Diego marsh-elder populations (CNPS 2014).

San Diego marsh-elder was observed widespread within the Survey Area. Chambers Group mapped 735 individuals in the major drainages and streams and the Otay River that is found within the Survey Area.

Coulter's goldfields (*Lasthenia glabrata* subsp. *coulteri*) CRPR 1B.1

Coulter's goldfields is an annual herb in the Asteraceae family that flowers between February and June. This species is almost always found in areas with seasonal water accumulation, including vernal pools, marshes, and swamps below 3,281 feet (1,000 meters) amsl. Coulter's goldfields are seriously threatened by urbanization and agricultural development (CNPS 2014).

Coulter's goldfields is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Gander's pitcher sage (*Lepechinia ganderi*) CRPR 1B.3, NCCP-covered

Gander's pitcher sage is a perennial shrub in the Lamiaceae family that flowers between June and July. This species grows in gabrroic or metavolcanic soils in closed-cone coniferous forest and chaparral, coastal scrub, and valley and foothill grassland habitats. Gander's pitcher sage can be found at elevations between 1,000 and 3,300 feet (305 to 1,005 meters) amsl. Threats to this species include development (CNPS 2014). Gander's pitcher sage is considered sensitive by the BLM.

Gander's pitcher sage is presumed absent from BLM lands within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Jennifer's monardella (*Monardella stoneana*) CRPR 1B.2

Jennifer's monardella is a perennial herb in Lamiaceae family that flowers between June and September. This species grows in rocky, intermittent streambeds within closed-cone coniferous forest, chaparral coastal scrub, and riparian scrub habitats. Jennifer's monardella occurs at elevations between 30 and 2,600 feet (10 to 90 meters) amsl. This species is threatened by urbanization in portions of its range (CNPS 2014).

Jennifer's monardella is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Mud nama (*Nama stenocarpum*) CRPR 2B.2

Mud nama is an annual/perennial herb in the Boraginaceae family that flowers between January and July. This species is found growing in marsh and swamp habitats (lake margins, riverbanks) at elevations between 16 and 1,640 feet (5 to 500 meters) amsl.

Mud nama is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Spreading navarretia (*Navarretia fossalis*) FT, CRPR 1B.1, NCCP-covered

Spreading navarretia is an annual herb in the Polemoniaceae family that flowers between April and June. This species is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet (30 to 655 meters) amsl. This species is threatened by urbanization, agriculture, road construction, grazing, flood control, non-native plants, illegal dumping, foot traffic, and OHV use and potentially threatened by hydrological alterations (CNPS 2014).

Spreading navarretia is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Coast woolly-heads (*Nemacaulis denudata var. denudata*) CRPR 1B.2

Coast woolly-heads is an annual herb in the Polygonaceae family that flowers between April and September. This species occurs on coastal dunes below 328 feet (100 meters) amsl. Distribution of the coast woolly-heads has been significantly decreased by coastal development (CNPS 2014).

Coast woolly-heads is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

California Orcutt grass (*Orcuttia californica*) FE, CE, CRPR 1B.1, NCCP-covered

California Orcutt grass is an annual herb in the Poaceae family that flowers between April and August. This species is found growing in vernal pool habitats at elevations between 49 and 2,363 feet (15 to 660 meters) amsl. This species is threatened by agriculture, development, non-native plants, grazing, and vehicles (CNPS 2014).

California Orcutt grass is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Baja California birdbush (*Ornithostaphylos oppositifolia*) CE, CRPR 2B.1

Baja California birdbush is a perennial evergreen shrub in the Ericaceae family that flowers between January and April. This species is typically found in chaparral habitat at elevations between 328 and 2,624 feet (100 to 800 meters) amsl. Baja California birdbush is known to occur in only one area west of San Ysidro near the Mexican border (CNPS 2014). This species is threatened by Border Patrol activities (CNPS 2014).

Baja California birdbush is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Otay mesa mint (*Pogogyne nudiuscula*) CRPR 1B.1, NCCP-covered

Otay Mesa mint is an annual herb in the Lamiaceae family that flowers between May to July. This species often grows in clay soils within vernal pool habitats. Otay Mesa mint can be found at elevations between 295 and 820 feet (90 to 250 meters) amsl. This species is known from fewer than 20 occurrences and is threatened by recreational activities, vehicles, and trampling (CNPS 2014).

Otay mesa mint is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Nuttall's scrub oak (*Quercus dumosa*) CRPR 1B.1

Nuttall's scrub oak is a perennial evergreen shrub in the Fagaceae family that flowers between February and August. This species is found growing in sandy and clay loam soils of closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet (15 to 400 meters) amsl. This species is threatened by development, fire suppression, and vegetation/fuels management and possibly threatened by hybridization with scrub oak (*Q. berberidifolia)* (CNPS 2014).

Nuttall's scrub oak is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Santa Catalina Island currant (*Ribes viburnifolium*) CRPR 1B.2

Santa Catalina Island currant is a perennial evergreen shrub in the Grossulariaceae family that flowers between February and April. This currant species can be found growing in chaparral and forest openings at elevations between 98 and 1,148 feet (30 to 350 meters) amsl. Santa Catalina Island currant is threatened on the mainland by mining (CNPS 2014).

Santa Catalina Island currant is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Small-leaved rose (*Rosa minutifolia*) CE, CRPR 1B.1, NCCP-covered

Small-leaved rose is a perennial deciduous shrub in the Rosaceae family that flowers between January and June. This species is found growing in chaparral and coastal scrub habitats at elevations between 492 and 525 feet (150 to 160 meters) amsl. This species is threatened by development and vehicles and possibly threatened by competition with non-native plants (CNPS 2014).

Small-leaved rose was observed within the Survey Area. Chambers Group mapped 18 individuals within the restored maritime succulent scrub located in Dennery Canyon Habitat Restoration Project. This species is covered under the San Diego NCCP.

Munz's sage (*Salvia munzii*) CRPR 2B.2

Munz's sage is a perennial evergreen shrub in the Lamiaceae family that flowers between February and April. This sage species is typically found in coastal sage scrub and chaparral habitats between 377 and 3,493 feet (115 to 1,065 meters) amsl. Munz's sage, when present, is usually the dominant species in the area. This species is threatened by development and possibly threatened by non-native plants and illegal dumping (CNPS 2014).

Munz's sage was observed widespread within the Survey Area. Chambers Group observed 747 individuals in a variety of habitats such as coastal sage scrub, alluvial scrub, and many other habitats along the majority of the tie line.

Chaparral ragwort (*Senecio aphanactis*) CRPR 2B.2

Chaparral ragwort is an annual herb in the Asteraceae family that flowers between January and April. This species is found growing in chaparral, coastal scrub, cismontane woodland, and sometimes alkaline habitats at elevations between 49 and 2,600 feet (15 to 800 meters) amsl.

Chaparral ragwort is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Purple stemodia (*Stemodia durantifolia*) CRPR 2B.1

Purple stemodia is a perennial herb in Plantaginaceae family that flowers between January and December. This species can be found in Sonoran desert scrub, often on mesic, sandy soils at elevations between 591 and 984 feet (180 to 300 meters) amsl. This species is threatened by development (CNPS 2014).

Purple stemodia is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

Parry's Tetracoccus (Tetracoccus dioicus) CNPS 1B.2, NCCP-covered

Parry's tetracoccus is a CNPS List 1B.2 species. This deciduous shrub flowers between April and May and is found on dry, stony slopes. Habitat includes chaparral and coastal scrub at elevations between 500 feet and 3,300 feet (150 to 1,000 m) amsl. This species is threatened by agriculture and development (CNPS 2011).

Parry's tetracoccus is presumed absent within the Survey Area. Suitable habitat for this species is present within the Survey Area; however, this species was not observed during protocol-level focused plant surveys conducted during the 2014 blooming period.

APPENDIX E – SENSITIVE WILDLIFE SPECIES DESCRIPTIONS

Allen's Hummingbird (*Selasphorus sasin*) - USFWS BCC

This hummingbird is ranges along the coast of southern Oregon down to southern California and Mexico. Measuring an average of 3.75 inches long and 4.25 inches wide, it is characterized by its red gorget, white bib on chest, and rufous coloring along the sides and underparts. The top of the head and back is bronze-green. Two subspecies are recognized: *S. sasin sasin* and *S. sasin sedentarius*. While they are visually similar, their wintering and nesting habits distinguish the two subspecies from one another. *S.s. sasin* subspecies migrates and winters in Mexico and can be found in a broader variety of habitats such as mixed evergreen, oak woodlands, eucalyptus, and cypress groves. *S.s sedntarius* is a nonmigratory resident of southern California, found only in chaparral and riparian woodlands below 300 meters. They create small (2-2.5 inches in diameter) open-cup nests made with grasses, leaves, moss, and lichen woven together with spider webs on the outer layer. The inside is lined with downy plant material. Each breeding season usually yields two clutches of an average of two small, white eggs. Breeding season can start as early as December and will last through June. Presently, population is in a slight downward trend. Threats to this species include habitat loss, use of pesticides, and replacement of native plants by invasive species.

The Allen’s hummingbird is considered **present** on the Proposed Project area for foraging and has a moderate potential to nest within the Project area. CNDDB lists no records of occurrence within 5 miles of the ROW.

American badger (*Taxidea taxus*) CDFW SSC, NCCP-covered

This carnivorous species ranges over most of the western and upper midwestern United States south into central Mexico. In California, the badger may occupy a variety of habitats, especially grasslands, savannas, montane meadows, sparse scrublands, and deserts. It prefers friable soils for burrowing and relatively open, uncultivated ground. Prey items include gophers, ground squirrels, marmots, kangaroo rats, other rodents, and the occasional reptile or amphibian. This tenacious mammal may weigh up to 25 pounds and is easily recognized by its overall yellowish-gray coloration, the white stripe on top of its head, white cheeks, and black feet with noticeably long front claws. It is a heavy-bodied animal with short legs and a characteristic pigeon-toed gait. It is chiefly nocturnal, but it is often seen by day as well. It gives birth to two to five young anywhere from February to May, depending on its altitude and latitude. Threats to this species include habitat loss to agriculture, housing and other land conversions, and illegal hunting.

The American badger has a **moderate** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW, approximately 2.43 miles from the ROW.

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) CESA Endangered, NCCP-covered

This subspecies ranges along the coast from Santa Barbara down to Baja California with a resident population in San Diego. It is an endemic of coastal salt marshes and is heavily associated with pickleweed (*Salicornia* sp.). Savannah sparrows in general are streaky and brown, medium-sized sparrows with relatively short tails; their most diagnostic trait is their yellowish supraloral. The Belding’s subspecies has a “weak” median crown stripe compared to the rest of the species. They nest close to the ground in dense vegetation or on the ground with heavy overhead cover. Their nests are 3 inches wide and are composed of an outer layer of coarse grasses and an inner layer of finely woven grass. A clutch of 4 to 6 speckled blue-green eggs is produced each season. Nesting success has been positively associated with denser and taller vegetation. This subspecies is sedentary, existing in an extremely fragmented metapopulation within its range. No genetic exchange has been observed between subpopulations, even between subpopulations as close as a quarter mile away. Habitat fragmentation poses a serious threat to this species. Other threats to this subspecies include habitat degradation, predation, human recreational disturbance, and poor past management and restoration strategies in wetland areas.

The Belding's savannah sparrow is considered **absent** from the TL 649 ROW for foraging and nesting. CNDDB lists three records of occurrence within 5 miles of the ROW, with the closest observation being approximately 3.95 miles from the ROW.

Bell's sage sparrow (*Artemisiospiza belli belli*) CDFW WL, USFWS BCC

The species range extends from the Sierra Nevada down to Mexico. The *belli* subspecies is a resident of the Upper Sonoran zone and the southern coastal region of San Diego to Contra Coasta counties. It prefers chaparral communities dominated by chamise or saltbrush as well as coastal scrub dominated by sage. It is a medium-sized sparrow with a gray head and brown body; its facial characteristics include a white eye ring, gray cheeks, white lores, and a white stripe followed by a black "mustache" stripe. During breeding season its diet primarily consists of insects and spiders and then shifts to seeds and green foliage in the winter. Cup nests made of dry twigs and stems are built on or near the ground. Each breeding season typically lasts from late March to mid-August, with the female producing one clutch of 3 to 5 bluish-white speckled eggs. The greatest single threat to this population is habitat loss and degradation (Chase and Carlson 2002; Chesser et al. 2013; Cicero and Koo 2012; Cicero and Johnson 2007).

The Bell's sage sparrow has a **moderate** potential to occur within the TL 649 ROW for foraging and nesting. CNDDB lists one records of occurrence 4.74 miles from the ROW.

Burrowing owl (*Athene cunicularia*) CDFW SSC, BLMS, NCCP narrow endemic species

Burrowing owls breed in open plains from western Canada and the western United States, Mexico through Central America, and into South America to Argentina (Klute et al. 2003). This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation (Ehrlich et al. 1988). It may occupy golf courses, cemeteries, road ROWs, airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows (TLMA 2006). It occupies mammal burrows such as badger, prairie dog, and ground squirrel burrows for subterranean shelter and nesting (Trulio 1997). When burrows are scarce, the burrowing owl may use man-made structures such as openings beneath cement or asphalt pavement, pipes, culverts, and nest boxes (TLMA 2006). One burrow is typically selected for use as the nest; however, satellite burrows are usually found in the immediate vicinity of the nest burrow within the defended territory of the owl.

Burrowing owls are active day and night, with peak times at dawn and dusk (Klute et al. 2003). Breeding typically occurs from March through August, with peak periods in May and July. The burrowing owl is a small, ground-dwelling owl with a round, grey-brown, tuftless head; long, bare yellow legs; bright yellow iris; brown back; and buffy-white underparts with brown barring (Klute et al. 2003). Insects form the bulk of its diet in the summer and small mammals, birds and reptiles in the winter (Klute et al. 2003). Threats to burrowing owl populations include the loss of and destruction of habitat from agriculture and urban development, the destruction of burrows, and indirect poisoning via rodent eradication efforts (Klute et al. 2003).

The burrowing owl has a **high** potential to forage and nest on the TL 649 ROW. CNDDB lists 17 records of occurrence within 5 miles of the ROW, with 3 records being within 1,500 feet of the ROW. The ROW contains good quality habitat for BUOW. This species was not observed in the ROW during focused surveys conducted by Chambers Group in 2014. One potentially burrow was found near pole Z31750.

California black rail (*Laterallus jamaicensis conturniculus*) CDFW fully protected, BLMS, United States Forest Service (USFS) sensitive, USFWS BCC

This species range extends from California, Arizona, Baja California, and the Colorado River delta. It is an elusive, small rail, only 6 to 7 inches in size. It is blackish-gray with red eyes, a black bill, a brown nape, and white speckled back. This species exists in three distinct metapopulations. The largest metapopulation is concentrated the San Francisco Bay area, with a few subpopulations as far north Bodega Bay and as far south as Baja California. The other two metapopulations are concentrated in the Central Valley and in along the Lower Colorado River. This rail is highly habitat-sensitive, only occurring in tidal emergent wetlands, salt marshes, freshwater marshes, and wet meadows. Within these habitats, it prefers areas with gentle slopes, dense vegetation, shallow water (greater than 3 inches), and minimal water fluctuations. It has been documented in tidal emergent wetlands dominated by pickleweed; brackish marshes dominated by bulrushes; and freshwater dominated by bulrushes, cattails, and saltgrass. These birds are nonmigratory and utilize these habitats for breeding, foraging, and overwintering. Their diet consists of aquatic and terrestrial invertebrates gleaned from the vegetation; they have also been known to supplement their diet with seeds in the winter when invertebrates are less available. Breeding season begins in late January and extends until early July. Each season produces one clutch of 3 to 8 eggs laid in loose, deep cup nests built on or within several inches of the ground. Egg-laying females are finicky and will abandon a nest before completing a clutch if disturbed. Threats to this species include habitat loss and degradation, predation from herons and cats, and collisions with human structures (DRECP 2012a).

The California black rail is considered **absent** on the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW. This record is approximately 4.86 miles from the ROW and was recorded in 1908. This species is considered extirpated from San Diego, with the last known breeding records being in the 1950s.

California least tern (*Sternula antillarum browni*) ESA Endangered, CESA Endangered, CDFW FP, NCCP-covered

The only subspecies of least tern to occur in California, the California least tern occurs in a few colonies found along San Francisco Bay, the Sacramento River Delta, San Luis Obispo, and San Diego. It is a small shorebird (10 inches in length) with a black-capped head; white forehead; long, pale gray wings; a white body; and a forked-tail. California least terns can be observed foraging for small fish such as anchovy (*Engraulis* sp.), silversides (*Atherinops* sp.), and shiner surfperch (*Cymatogaster aggregata*) in shallow estuaries and lagoons near the shore as well as in the open ocean. The California least tern's nonbreeding range is presumed to be along the Pacific Coast of central Mexico south to Panama; however, little research has been done to prove this. The breeding season lasts from late April to mid October along the Pacific Coast from San Francisco to Baja California. Historically, breeding colonies of 20 to 50 pairs were established on sparsely vegetated areas near water. Breeding colonies are trending toward more inland locations near the Bay-Delta and Central Valley. Presently, all breeding colonies are found near water made available only through management. Females nest in shallow depressions on sandy or gravelly substrate. Each nest contains a clutch of 2 to 3 eggs per breeding season. Threats to this species include avian predators, encroaching vegetation, human disturbance, sea level rise, loss of common prey species, and pollution. California least terns will readily flush from their nests if disturbed (by human traffic, low-flying aircrafts, etc), leaving the young exposed to predation. Predation by peregrine falcons (*Falco peregrinus*), corvids, hawks, and burrowing owls is especially impactful. Current management efforts deal primarily with predator control and inhibiting human disturbance with signs, fences, and education.

The California least tern has **low** potential to occur within the TL 649 ROW during migration and for foraging. This species is considered **absent** from the ROW for nesting as it requires specific habitat conditions for nesting which are not present on ROW. CNDDB list one record within 5 miles of the ROW approximately 4.55 miles from the ROW.

Clark's Marsh Wren (*Cistothrous palustris clarkae*) CDFW SSC

Historically, this subspecies was found in the swampy regions of Orange and Riverside counties. Due to urbanization of these areas, Clark's marsh wren began colonizing parts of San Diego County as of 1950. This subspecies sedentary and is heavily localized within the small patches of habitat that it resides in. It is a small brown bird (5 inches in length) with a thin bill, a whitish superciliary stripe, a dark cap, a whitish chest, buffy flanks, and black-and-white streaking on its back. Its diet consists primarily of insects, spiders, and invertebrates gleaned from the vegetation, and rarely seeds or grains. This wren is restricted to freshwater and brackish marshes dominated by cattails, bulrushes, and sedges. During the breeding season, males will construct a ball of woven herbage with a concealed opening on the side. Males also prefer to construct these nests over standing water in order to expand their food source and deter predators. Breeding season lasts from late March to late August, with each season yielding two broods. Each clutch can yield anywhere from three to eight eggs, with the average being five to six eggs. Threats to this species include draining of marshes for human development, sand mining, and proliferation of giant reed (*Arundo donax*) (Shuford and Gardali 2008b).

The Clark's marsh wren can be considered **present** on the TL 649 ROW for foraging purposes and has a **high** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Coast horned lizard (*Phrynosoma coronatum*) California SSC, BLM Sensitive, USFS Sensitive, and NCCP-covered

This species occurs from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura counties southward throughout the Peninsular Ranges of southern California to Baja California, Mexico, as far south as San Vicente. It is found in a wide variety of habitats, including coastal sage scrub, annual grasslands, chaparral, oak woodlands, riparian woodlands, and coniferous forests. It is perhaps most abundant in riparian and coastal sage scrub habitats on old alluvial fans of the southern California coastal plain. In foothill and mountain habitats that are covered with dense brush or other vegetation, the species is largely restricted to areas with pockets of open microhabitat; this habitat structure can be created by natural events such as fire and floods or human-created disturbances such as livestock grazing, fire breaks, and road construction. The key elements of these microhabitats are loose, fine, sandy soils; an abundance of native ants; open areas for basking; and low but relatively dense shrubs for refuge. The coast horned lizard is a moderately sized, dorso-ventrally flattened lizard with five backwardly projecting head spines; a large shelf above each eye; large, convex, smooth scales on the forehead; and two parallel rows of pointed scales fringing each side of the body. No stripes radiate from the eyes, and the iris is black. The dorsal color is highly variable but typically gray, tan, reddish-brown, or whitish and usually resembling the prevailing soil color; while the venter is yellow to white with discrete, dark spots. Its diet is composed almost entirely of ants, especially harvester ants; but it will take other insects on an opportunistic basis. The primary threat to the continued existence of this species is habitat loss. Other threats include non-native ants (especially Argentine ants) and disturbances related to off-road vehicles.

The coast horned lizard has **high** potential to occur within the TL 649 ROW. CNDDB lists six records of occurrence for this species within 5 miles of the ROW, with the closest being 1.78 miles from the ROW.

Coast patch-nosed snake (*Salvadora hexalepis virgultea*) California SSC, NCCP-covered

This species occurs from northern Carrizo Plains of San Luis Obispo County southward into Baja California at elevations of sea level to 9,000 feet (Jennings and Hayes 1994). It is a slender, medium-sized snake ranging in size from 10 to 46 inches in length (Calherps 2011), with a yellow or beige, dark-bordered mid-dorsal stripe one full scale row and two half-scale rows on each side, and a large patch-like rostral scale (Jennings and Hayes 1994). Undersurfaces are cream to white-colored, often with pink or orange washing near the tail; its iris is black with a buff ring around the pupil (Jennings and Hayes 1994). This species is found in chaparral and semi-arid areas with brushy or shrubby vegetation in canyons, plains, and rocky hillsides. It seeks refuge and potentially overwinters in woodrat middens and small mammal burrows, so these may be necessary for this species to occur (Jennings and Hayes 1994). The coast patch-nosed snake is bimodally active, with evidence that its peak activity interval corresponds to the peak activity intervals of its main prey item, whiptail lizards; and it will climb shrubs in pursuit of prey (Jennings and Hayes 1994). This species overwinters from October to March and is thought to lay eggs from May to August. In addition to whiptail lizards, it feeds on small mammals, amphibians, bird nestlings, and, possibly, small snakes (Calherps 2011). Considered an uncommon species with little information existing about its natural history or abundance, threats to the coast patch-nosed snake include habitat degradation from heavy grazing, land development, and loss of former habitat (California Reptiles and Amphibians 2011a).

The coast patch-nosed snake has a **moderate** potential to occur on the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW approximately 2.48 miles from the ROW, and the ROW contains moderate-quality suitable habitat.

Coastal cactus wren (*Campylorhynchus brunneicapillus*) CDFW SSC, USFWS BCC, USFS Sensitive and NCCP narrow endemic species

This species occurs from the lower southwestern United States south into Mexico; in California it is found only in Orange and San Diego counties. Its preferred habitat includes coastal sage scrub interlaced with patches of opuntia cactus (such as chollas and prickly pear), which it uses almost exclusively for the construction of nests (Unitt 2008). The nests are remarkably large and conspicuous, given the size of the bird, and are constructed as woven spherical nests with a side opening in the branches of the host cactus. San Diego coastal cactus wrens nest primarily from early March through July, and young disperse only a short distance from nesting sites. This species is predominantly insectivorous, foraging on the ground and within vegetation for a variety of insects, including caterpillars, moths, and grasshoppers. San Diego cactus wrens establish resident territories and maintain them for life. The primary threat to this species is urbanization. Additional threats include fire, habitat degradation, and fragmentation (Unitt 2008).

The San Diego coastal cactus wren has a **moderate** potential to occur on the TL 649 ROW for foraging and **low** potential for nesting. CNDDB lists 15 records of occurrence within 5 miles of the ROW, with 2 less than 1,000 feet from the ROW. This species was not observed in the ROW during focused surveys conducted by Chambers Group in 2014.

Coastal California gnatcatcher (*Polioptila californica californica*) ESA threatened, CDFW SSC, NCCP-covered

The historical range of this species extended from the coast and foothills of Ventura County and south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented (Bontrager 1991). It is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 2,500 feet in elevation.

The California gnatcatcher is a small, secretive songbird with grayish coloration and faint white outer tail margins. Males of this species exhibit a black cap during the breeding season. This insectivorous bird nests and forages in moderately dense stands along gentle slopes, arid hillsides, mesas, foothills, and alluvial washes. It gleans a variety of insects within its territory, including caterpillars and other larval insects. It builds a cup nest in suitably dense shrubs and lays four eggs, on average. Contributing factors in the decline of this species include overly frequent fire cycles, non-native plant invasions, brown-headed cowbird (*Molothrus ater*) nest parasitism, predation, and widespread habitat loss to urbanization and agriculture (Mock et al. 1990; Bontrager1991).

CNDDB lists 31 records of occurrence of this species within 5 miles of the TL 649 ROW. Two of these observations were within 1,000 feet of the ROW. In addition, the ROW contains good quality suitable habitat. The CAGN can be considered **present** on the ROW for both foraging and nesting purposes.

Cooper's hawk (*Accipiter cooperii*) CDFW WL

Historically, the Cooper’s hawk’s favored habitats included open woodlands, mature forests, woodland edges, and river groves. More recently, the Cooper's hawk has been known to breed in suburban and urban areas with similar tree structure to native habitats. This species is similar in appearance to the sharp-shinned hawk (*Accipiter striatus*) but is distinguished by its larger size, more rounded tail, and darker crown. The Cooper’s hawk is a medium-sized (14 to 20 inches) hawk and is well-adapted for hunting birds as prey with its long tail and short, rounded wings; these features allow maneuverability in pursuit and on the ambush. In addition to birds, it may also take amphibians, reptiles, and small mammals as supplemental prey items. Historic population losses resulted from the widespread use of DDT. Other threats include habitat loss and illegal hunting (Remsen 1978).

The Cooper’s hawk can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Coronado Island skink (*Plestiodon skiltonianus interparietalis*) CDFW SSC, BLM Sensitive, NCCP-covered

Coronado Island skink inhabits the coastal plain and Peninsular Ranges west of the deserts from approximately San Gorgonio Pass (Riverside County) southward to San Quintín (Baja California), Mexico. It occurs in a variety of plant associations ranging from coastal sage, chaparral, oak woodlands, pinyon-juniper, and riparian woodlands to pine forests; but within these associations it prefers early successional stages and is often restricted to areas with adequate rocky cover, usually near streams. This species is diurnal, with most activity occurring in early spring to early fall, with bimodal activity in summer. The Coronado Island skink is a medium-sized (53 to 83 millimeters snout to vent length [SVL]) smooth-scaled lizard with relatively small limbs and four white or beige stripes on a brown dorsum. The intervening mid-dorsal and lateral dark stripes extend to or beyond the middle of the tail in adults. The tail has at least some blue coloration; the tail color is often brilliant blue in juveniles and adults having unbroken tails. Coronado Island skinks feed upon small invertebrates found in leaf litter. Threats to the Coronado Island skink include habitat loss to citrus and avocado orchards, pesticide use in agricultural fields and orchards, and human use of surface and ground water causing mesic areas to become drier (California Reptiles and Amphibians 2012).

The Coronado Island skink has **moderate** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW, 4.24 miles from the ROW.

Double-crested Cormorant (*Phalacocorax auritis*) CDFW WL

The double-crested cormorant is ommonly found in marine and freshwater habitats along coastlines and further inland throughout North America, Canada, and eastern Mexico. They are relatively large birds (33 inches in length), mostly dark brown-black with a bright patch of orange skin that extends from their grayish bills to their turquoise eyes. These cormorants require a large body of water in order to sustain their heavily piscivore diet. Cormorants have a broad diet consisting of over 250 species of fish, crustaceans, amphibians, and insects. Nesting season lasts from early April to August. Large breeding colonies of hundreds to thousands of breeding pairs are established along the California coast, the Salton Sea, and the Colorado River. Each season yields only a single clutch ranging from 2 to 9 eggs. Nests are typically placed on bare ground, rocks, reefs, treetops, rocky ledges, and coastal cliffs; they are made of an aggregation of medium-sized sticks and flotsam and lined with grass. Threats to this species include human disturbance; parents will readily abandon the nest if disturbed. Other threats include pollution and predation by gulls and crows.

The double-crested cormorant is considered **absent** from the ROW for nesting, as it has special habitat restrictions for nesting not found on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Grasshopper sparrow (*Ammodramus savannarum perpallidus*) CDFW SSC

The grasshopper sparrow occurs in both North and South America, ranging from southern Canada south to Ecuador in a discontinuous distribution. Within California, the grasshopper sparrow is found in most coastal counties, along the western side of the Sacramento Valley, and in the western foothills of the Sierra Nevada Mountains. Grasshopper sparrows prefer breeding habitat consisting of open grasslands, preferably with bunch grass (versus sod type) as the predominant cover, although through much of California, non-native annual grasslands and agricultural fields are used in the absence of native bunch-grass ecosystems. Nests are well hidden on the ground under clumps of grass, screened from above by a dome. The primary threats to grasshopper sparrows involve habitat loss to anthropogenic causes which include urbanization and conversion of grasslands to agricultural uses not compatible with grasshopper sparrow habitat requirements (Unitt 2008).

The grasshopper sparrow can be considered **present** on the TL 649 ROW for foraging purposes and has a **high** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Green turtle (*Chelonia mydas*) ESA threatened

Green turtles are found in shallow waters in reefs, bays, and inlets; however, they can also be found in lagoons and shoals with ample marine grass and algae. The average adult green turtle is 4 feet long with a heart-shaped, unkeeled brown shell, white-yellow plastron, and single-clawed flippers. Nesting season lasts from June to September; beaches with a gentle slope are the preferred breeding habitat. This species also exhibits extreme nesting site fidelity, and an individual will travel great distances to reuse its natal site. On average, a female will have 3 clutches of 75 to 200 eggs. Threats to this species include commercial hunting for meat and eggs, disease, loss of suitable nesting habitat, human disturbance, and predation (USFWS ECOS 2014c).

Although CNDDB lists one record of occurrence within 5 miles of the TL 649 ROW (4.67 miles from ROW) the green turtle is considered **absent** from the ROW. This species is restricted to habitats that do not occur within the ROW.

Hermes copper butterfly (Lycaena hermes) USFWS Candidate

Hermes copper butterfly is found in mixed woodlands, chaparral, and coastal sage scrub from San Diego County to adjacent Baja California Norte, Mexico. Spiny redberry (*Rhamnus crocea*) is the host larval food plant for this species, which is common in cismontane California coastal sage scrub and chaparral vegetation communities. However, this species is limited to only a portion of the redberry range, usually along north-facing hillsides or within deeper, well-drained soils of canyon bottoms where host (spiny redberry) and nectar (California buckwheat) plants are present. In addition, mature spiny redberry plants appear to be essential to this species' survival. It may take as long as 18 years after a wildfire for this species to re-colonize an area.

This species has a **low** potential to occur within the Survey Area. No CNDDB records of occurrence are documented within five miles of the Proposed Project. There are approximately only 20 known populations of Hermes copper butterfly. While suitable habitat for this species is present within the Survey Area, the closest documented population occurs near the Otay Lakes Reservoir, approximately three miles from the Proposed Project.

Hoary bat (*Lasiurus cinereus*) Western Bat Working Group (WBWG) medium-priority species

The hoary bat prefers open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. It roosts in dense foliage of medium to large trees and feeds primarily on moths and requires water. The hoary bat occurs in a variety of habitats across the North American continent but has a patchy distribution in southeastern California. This species winters in coastal and southern California but can be widespread during migration. Suitable breeding habitat includes all woodlands and forests with medium to large-size trees and dense foliage. This species can be found from sea level to 13,200 feet elevation. This solitary bat prefers to roost in dense foliage in sites that are hidden from above with few branches below and near areas with water. During migration in southern California, males are found in foothills, deserts, and mountains; while females prefer lowlands and coastal valleys.

The hoary bat has a **low** potential to occur within the TL 649 ROW. Although CNDDB lists one record of occurrence within 5 miles of the ROW (4.26 miles from ROW), the ROW contains low quality roosting habitat to support this species.

Lawrence's Goldfinch (*Spinus lawrencei*) USFW BCC

Lawrence's goldfinch range extends from the Central Coast of California down to Mexico and parts of the Sierra Nevada. This goldfinch's occurrence throughout its range is highly localized and erratic. Lawrence's goldfinch is a small (4.75 inches in length) passerine; this species is sexually dimorphic. Males have a black face, a bright yellow patch on their chest, and black wings with yellow wingbars and primaries on their gray body. Females are predominantly gray with subtle yellow wingbars. This species travels as a nomadic flock; they are known to breed extensively in a location in one year and completely abandon it for another site the next year. It is believed that they may readily change their sites in accordance to food and water abundance. These goldfinches are granivorous and glean seeds from the vegetation that they perch on. Breeding season runs from late March through August. Individuals that breed in California typically winter near New Mexico. This species is closely associated with oaks and tends to breed in arid woodlands and in chaparral near water. It has been known to occasionally breed in colonies of up to a dozen pairs. A loose cup nest made of leaves, grass, and lichen is placed mid-height in trees. Each season yields one clutch of 3 to 6 eggs. Due to the erratic movement of this species, its population trend is difficult to keep track of; however, the population likely consists of approximately 200,000 individuals (Davis 1999).

The Lawrence's goldfinch can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Least Bell's vireo (*Vireo bellii pusillus*) ESA Endangered, CESA Endangered, NCCP-covered

Least Bell's vireo is restricted to coastal California and Baja California, Mexico, and a few inland populations. Its winter range extends along the Pacific coast from northern Mexico south to northern Nicaragua. It is a small, gray songbird with two faint wingbars and a faint eyering and is whiter below. This species prefers to nest in low, dense, scrubby vegetation in early successional areas and is particularly dependent on corridors of habitat along rivers and streams (Brown 1993; Goldwasser 1981). The two major factors in the decline of LBVI populations are loss of habitat and nest parasitism by the brown headed-cowbird. Despite historical population losses, recent trends indicate that populations are on the rise and that the LBVI is returning to parts of its former range as well as colonizing some new areas.

CNDDB lists 14 records of occurrence of this species within 5 miles of the TL 649 ROW. Three of these observations were within 1,000 feet of the ROW. In addition, the ROW contains good quality suitable habitat. The least Bell's vireo can be considered **present** on the ROW for both foraging and nesting purposes.

Light-footed clapper rail (*Rallus longirostris levipes*) ESA Endangered, CESA Endangered, CDFW FP, NCCP-covered

This subspecies range is within the coastal wetlands and brackish marshes from Santa Barbara to San Diego. They are a long-legged, medium sized (14 inches in length) bird that resides exclusively in the marshes. Light-footed clapper rails have a cinnamon breast, grayish-brown back, and white streaked flanks. They prefer emergent saline wetlands dominated by pickleweed, cordgrass, and bulrush; however, when foraging, they require mudflats where they can glean and probe the substrate for crabs, worms, mussels, insects, and spiders. A nonmigratory resident species, they will nest in the same habitat and area they winter in. Each breeding season typically lasts from mid-March to July and yields one clutch of anywhere from 4 to 14 eggs. Threats to this species include loss or degradation of habitat due to human development, depredation of eggs by rats and crows, and high tides. Current management practices include habitat restoration, predator control, creation of artificial nesting sites, and establishment of captive breeding protocols. Since its initial listing, management practices have been effective in steadily increasing the number of breeding pairs year by year; as of 2013, a record number of 520 breeding pairs was counted.

The light-footed clapper rail has a **low** potential to occur within the TL 649 ROW for foraging and **absent** for nesting. Although CNDDB lists four records of occurrence of this species within 5 miles of the TL 649 ROW (all over 3.79 miles from the ROW), the ROW contains low quality habitat to support this species.

Long-eared myotis (*Myotis evotis*) BLM Sensitive, WBWG medium priority species

This species occurs across much of western North America, from British Colombia to southern California and New Mexico. This species is found predominantly in coniferous forests, typically in higher elevations in southern areas (7,000 to 9,600 feet amsl) but is also known to occur at sea level. The long-eared myotis often roosts in tree cavities and beneath exfoliating bark in both living trees as well as in dead snags. It is one of only two western bats to also roost at ground level in fallen trees, tree stumps, and rock crevices. The main diet of the long-eared myotis consists of insects, including moths. The long-eared myotis captures prey in flight and also captures stationary insects from the ground and off foliage (Harris 1990b; National Park System 2006).

The long-eared myotis has a **low** potential to occur within the TL 649 ROW. CNDDB lists one records of occurrence within 5 miles of the ROW (4.11 miles from ROW), and the ROW contains low quality roosting habitat to support this species.

Mexican long-tongued bat (*Choernycteris mexicana*) CDFW SSC, WBWG high priority species

The bulk of the range for Mexican long-tongued bat lies within Mexico and Baja California; its range stretches from northern South America northward to the southwestern border of the United States. Within California, its range is limited to the southwestern corner of San Diego County. It occupies a wide variety of habitats, such as desert and montane riparian, desert scrub, chaparral, various woodlands, and moist desert canyons. It is a medium-sized, brown-colored bat made distinguishable by the leaf-like projection on its nose, long rostrum, and small ears. It utilizes mines, caves, canyons, and rock crevices for roosting and rarely forms large colonies greater than a dozen individuals. Breeding season can potentially last from February to September; however, most births occur in June and July. Each season yields one offspring. Breeding occurs in the northernmost parts of its range, north of Mexico. The Mexican long-tongued bat is a rare occurrence within the United States, currently the only nectivorous bat that is not endangered. This species is easily spooked and will readily abandon its roost if disturbed. Further research is needed in order to identify threats to this species' population (Charron 2002; NatureServe 2014; Pierson and Rainey 1998).

The Mexican long-tongued bat has a **low** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW (3.79 miles from ROW), and the ROW contains low quality roosting habitat to support this species.

Northern Harrier (*Circus cyaneus*) CDFW SSC

The northern harrier is found year-round within the northern latitudes of the United States; it also winters in the southern latitudes of the United States to northern South America and summers in Canada up to Alaska. Within California, it is found near the coast, in the northeastern area, and along the Central Valley. The northern harrier is a sexually dimorphic, medium-sized raptor with an owl-like face, long tail and wings, and a white patch on its rump. Males are gray with black wingtips, and females are brown with black bands on their tails. Northern harriers can be found in several different habitats; however, they frequent meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. When searching for prey items, they fly low over open ground, listening for small mammals, birds, frogs, small reptiles, crustaceans, and insects, before diving down to catch their prey. Breeding season occurs from April to September; each season yields one clutch of an average of five eggs. Nests are placed on the ground in shrubby vegetation and are composed of a large mound of sticks or grasses. Threats to this species include habitat loss and degradation, bioaccumulation of toxins in rodenticides, and trampling of nests by grazing cattle (MacWhirter and Bildstein 2000; Snyder 1993).

The northern harrier can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) CDFW SSC, NCCP-covered

This species occurs in western Riverside, southwestern San Bernardino, eastern Orange, and San Diego counties in California, as well as northwestern Baja California, Mexico. It prefers sage scrub, chaparral, and non-native grasslands in association with rocks or coarse gravel (McClenaghan 1983; Bleich 1973). The northwestern San Diego pocket mouse has relatively small ears and yellowish or orange hair on its sides, contrasting with a dark brown back (Lackey 1996). Primarily a granivore, this pocket mouse will occasionally eat herbaceous forbs, green grasses, and insects during certain seasons. Habitat fragmentation and development are primary threats to this species.

The Northwestern San Diego pocket mouse has a **moderate** potential to occur within the TL 649 ROW. CNDDB lists two records of occurrence within 5 miles of the ROW, with the closest approximately 570 feet from the ROW.

Nuttall's Woodpecker (*Picoides nuttallii*) USFWS BCC

This species occurs as a resident in oak woodlands in the Central Valley, Transverse and Peninsular Ranges, and in the Cascade Range and Sierra Nevada. A small woodpecker, it has a streaked black-and-white face and black-and-white barring along its back. Adult males will also have red on their rear crown and upper nape. Nuttall’s woodpeckers are most closely associated with oak woodland and riparian habitats, though they can also be found in mixed deciduous forests. When foraging for insects and other arthropods, they will peck, drill, probe, and glean trunks, branches, twigs, and foliage. The majority of their diet is composed of adult and larval beetles, but occasionally they will consume berries, sap, seeds, and nuts. Breeding season lasts from late March to early July. Each season produces one clutch of three to six eggs. Threats to this species include loss of riparian habitat and contiguous oak woodland, predation by raptors, and hybridization with ladder-backed woodpeckers where their ranges overlap (Lowther 2000).

The Nuttall's woodpecker can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Olive-sided Flycatcher (*Contopus cooperi*) CDFW SSC

This species occurs throughout most of Alaska, Canada, and the western United States during the breeding season before migrating through Mexico and Central America to winter in northwestern South America. Within California, it is found throughout most of northern California, the Sierra Nevada, and in small patches throughout southern California. Its distribution is closely linked to late-succession coniferous habitats. This species is a relatively large tyrannid measuring 7 inches in length. Overall, it is a gray bird with a large head and short tail; its most distinguishing feature is its white throat and belly that create a "vested" appearance. A popular mnemonic for this bird's call is "*quick, three beers.*" These flycatchers utilize edge habitat created by intermittent patches of open space within coniferous forests. Their abundance is greatest in fragmented conifer forest landscapes. Being flycatchers, they sally the air for flying insects, particularly bees and wasps. They will sally for insects along the open canopies or along the forest edge. Breeding season lasts from mid-April to early October. Each season yields one clutch of three to four eggs laid in a open-cup nest made of grasses, pine needles, mosses, and other similar materials. Nests are typically placed on the distil end of a branch high up within a conifer. The greatest threat to this species is the continual creation of unsuitable habitat by practices such as fire suppression, clear-cutting of forests, and urban development (Shuford and Gardali 2008c).

The olive-sided flycatcher can be considered **present** on the TL 649 ROW for foraging purposes and has a **low** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Orange-throated whiptail (*Aspisdoscelis hyperythra beldingi*) CDFW SSC, NCCP-covered

This species is found from San Bernardino County, California, through Baja California, Mexico. It is found in Diegan Coastal Sage Scrub and Coastal Sage-Chaparral Scrub, which provide both open territory and adequate shading, and in sandy washes, rocky outcrops, and open dirt roads. This species is undoubtedly limited by habitat but may be a species that is locally abundant as long as appropriate habitat exists. This species is often found in California buckwheat, California sagebrush, black sage, white sage (*Salvia apiana*), chamise, and redshank (*Adenostoma sparsifolium*) sage scrub and chaparral habitats. Due to similar habitat requirements, it typically occurs in association with the San Diego horned lizard. Hibernation sites occur on well-insulated, south-facing, open slopes that are often adjacent to terraces with woody perennials. The orange-throated whiptail is a moderately sized, gray, reddish brown, dark brown, or black lizard with five to seven pale yellow or tan stripes along each side. The top of the head has a yellow-brown to olive gray, single, fused frontoparietal scale. Undersurfaces are yellowish white, often with gray or bluish slate on the belly. Adults have varying degrees of red-orange wash that may occur on all undersurfaces. The latter is especially prominent on the throat and chest in breeding males. In hatchlings and juveniles, the tail is a highly visible, bright blue. Prey items include a variety of insects and spiders. The primary threat to the continued existence of this species is habitat loss (Brattstrom 2000).

The orange-throated whiptail is considered **present** within the TL 649 ROW. CNDDB lists nine records of occurrence within 5 miles of the ROW, with the closest occurrence being approximately 2,000 feet away.

Osprey (*Pandion haliaetus*) CDFW WL

The osprey has a worldwide distribution, utilizing shorelines, coasts, bays, lakes, river systems, or any other fish-bearing body of water. Within California, it winters in southern California and around the Salton Sea. It is a regular breeder in northern California, Great Valley, and Sierra Nevada. Ospreys are conspicuous, long-winged hawks with a bold dark brown eyestripe that runs through its otherwise completely white head. Overall, the osprey is a brown and white bird with dark brown on its back and wings and white on its head and underside. Almost exclusively piscivorous, it requires large bodies of fish-bearing water in order to forage for fish. Ospreys are unable to dive much deeper than 3 feet under the water and therefore depend on fish that come closer to the water's surface. On rare occasions, they have been observed eating mammals, birds, reptiles, amphibians, and invertebrates. Breeding season lasts from March to September. Despite being solitary birds, colonial nesting is a common occurrence, sometimes in flocks of 6 to 10 pairs. Ospreys prefer to nest in treetops, large snags, and cliffs and will readily use human-made nesting structures. Nests are large, ranging from 2.5 to 6 feet in diameter, and are made from an aggregation of sticks, bark, vines, algae, and other similar materials. Each breeding season yields one clutch of one to four, but most typically, three eggs. In the past, this species was impacted by the use of DDT, which thinned the calcium lining of eggshells and caused nests to fail. Today's population is still recovering from the impacts suffered from DDT. Current threats to this species are loss of suitable nesting structures and entanglement of young by wire and lines used by parents when building nests (Poole 2009: Poole et al. 2002; Zeiner et al. 1988-1990).

The osprey can be considered **present** on the TL 649 ROW for foraging purposes and has a **low** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Pacific pocket mouse (*Perognathus longimembris pacificus*) ESA endangered, CDFWSSC, NCCP-covered

This species exists in three main resident populations: Dana Point Headlands, San Mateo Creek, and the San Margarita River. It is a small rodent, the darkest brown of its family, with a buffy lateral stripe. It is typically found in habitats within the immediate vicinity of the Pacific Ocean in areas with loose, sandy soils. Habitat types associated with this species include maritime coastal sage scrub, chaparral, coastal strand, river alluvium, and coastal dunes. Diet is varied; it consumes a variety of seeds, forbs, and insects. Little is known about the reproductive habits of this species; however, juveniles have been observed from June to August. Due to the heavily localized and sedentary nature of this species, it is extremely sensitive to further habitat fragmentation and destruction. Another major threat to this species is predation by feral cats (Brylski 1998; USFWS ECOS 2014d).

CNDDB list one historic record of occurrence within 5 miles of the ROW located in the lower Tijuana River valley 4.78 miles from the ROW. At this location, approximately 134 specimens were collected between 1894 and 1932. This site was resampled in 2002, and no mice were found. They are now considered extirpated from southern San Diego. Pacific pocket mouse can be considered **absent** from the ROW for this reason.

Pallid bat (*Antrozous pallidus*) CDFW SSC, BLM Sensitive, USFS Sensitive, WBWG high-priority species

This species occurs from southern British Columbia along the Pacific coast, south to central Mexico, and east to central Kansas and Oklahoma. It occurs in a variety of habitats, including arid desert scrub, oak woodlands, juniper woodlands, grasslands, coniferous forests, and water-associated habitats. It may be more common throughout its range where rocky outcrops provide roost sites. The pallid bat, a member of the Vespertilionidae family (free-tailed bat family), is a rather large, pale, yellowish-brown bat with paler coloration below and a wingspan of about 9 inches (CDFW and CIWTG 1990b, 2005). Population dynamics are not fully understood, but one contributing factor in the decline of this species includes roost disturbance; it is highly susceptible to disturbance and may vacate a roost for years afterwards. Other factors include the razing of abandoned buildings, mining operations, pesticide-induced poisoning, and loss of foraging habitats (Bat Conservation International, Inc. 2011a).

The pallid bat has a **low** potential to occur within the TL 649 ROW. CNDDB lists four records of occurrence within 5 miles of the ROW, the closest being approximately 3 miles from the ROW. In addition, the ROW contains low quality roosting habitat to support this species.

Pocketed free-tailed bat (*Nyctinomops femorosaccus*) CDFW SSC, WBWG medium priority species

This primarily Mexican bat species is found in Mexico south to the state of Michoacan and occurs in the southwestern United States from southern California, southern Arizona, southeastern New Mexico, and western Texas. In California, this species is found in Riverside, San Diego, and Imperial counties; it is rare in California. It inhabits pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert washes, alkali desert scrub, Joshua tree, and palm oasis habitats. It roosts in small colonies of up to 100 individuals in rock crevices, caverns, roof tiles, and buildings. Although possible migration patterns are not well understood, it is most likely a year-long resident. Little wintering information exists for this species within its range in the United States. The pocketed free-tailed bat feeds on insects flying over desert habitat, streams, or ponds. This species feeds primarily on moths but also eats crickets, flying ants, stinkbugs, froghoppers, leafhoppers, lacewings, and other insects. It usually appears well after sunset. It is similar in appearance to the more common Brazilian free-tailed bat (*Tadarida brasiliensis*), with the exceptions that its ears are joined at the midline and it has a fold of skin that creates a small pocket near the knee area of the interfemoral membrane, from which it gets its common name. It gives birth to one young per year, which takes place in June or July; lactation occurs in July and August. Little is known of the factors contributing to the decline of this species in the United States (Harris 2000).

This species has a **low** potential to occur within the TL 649 ROW. The CNDDB lists three records of occurrence within 5 miles of the ROW, the closest being approximately 2,801 feet from the ROW. In addition, the ROW contains low quality roosting habitat to support this species.

Quino checkerspot butterfly (*Euphydryas editha quino*) ESA Endangered

The species ranges from northern Baja California to Canada along the Pacific coast and east to Colorado. The historical range of this subspecies once included the coastal plains and inland valleys of southern California and northern Baja California. It formerly occurred at many sites in San Diego, Orange, Los Angeles, and western Riverside counties. It is associated with habitats that contain its primary larval host plant, western plantain (*Plantago erecta*) and other host plants such as bird's beak (*Cordylanthus rigidus*) and owl's clover (*Castilleja exserta*). Specifically, owl's clover serves as an additional larval host plant for some quino checkerspot colonies located east of Temecula. These host plants tend to occur in clay or cryptogamic soils in areas mostly devoid of tall, weedy growth and/or a dense cover of shrubs. Adult butterflies characteristically tend to patrol low hilltops, rocky outcrops, and ridges. Additional habitat requirements include the presence of adult nectar sources and topographic features that include bare, open soils and ridgetops. Habitat loss and invasive plant species are contributing factors in the continuing decline of this species.

This species has **high** potential to occur with the TL 649 ROW. The USFWS species occurrence data lists 345 records of occurrences within five miles of the Survey Area, with one record occurring within the Survey Area. USFWS Critical Habitat for this species occurs within the Proposed Project area. However, focused survey efforts during the 2015 adult flight season resulted in no detections within the Survey Area.

Red diamond rattlesnake (*Crotalus ruber*) CDFW SSC, NCCP-covered

This species occurs throughout southern California from San Bernardino County to Cabo San Lucas, Baja California, Mexico, at elevations from sea level to 1,520 meters, with most encountered below 1,200 meters. It occurs in habitats with heavy brush associated with large rocks or boulders. This species is found in chamise and redshank-dominated associations, as well as coastal sage scrub, grassland, woodland, and desert slope scrub associations within canyons, mountains, deserts, and foothills. The northern red diamond rattlesnake is a large (75 to 163 centimeters), heavy-bodied rattlesnake with a tan, pink, brick-red, or reddish-colored dorsal color and obscure, usually light-edged brick or pinkish diamond-shaped blotches.

The tail base is prominently "raccoon tail" marked with broadly spaced but relatively narrow, distinct, black rings contrasting with the rest of the body color. The belly is white to pale yellow, and the undersurface of the tail is pinkish buff. The iris is brown. Northern red diamond rattlesnakes are crepuscular or nocturnal during periods of excessive heat and active during the day when temperatures are more moderate. Some individuals have been observed year-round, but it is thought that most hibernate in the winter (Calherps 2011). Peak activity occurs between April and May, potentially in relation to the breeding season. Between 3 and 20 live young are born between late July and September. Range restriction and habitat loss are the primary reasons for the decline of this species (California Reptiles and Amphibians 2011b).

The northern red diamond rattlesnake has a **moderate** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW (1.29 miles from ROW), and the ROW contains good quality suitable habitat.

Riverside fairy shrimp (*Streptocephalus woottoni*) ESA endangered, NCCP-covered

This species' range encompasses vernal pools found in western Riverside County, San Diego County, and through Baja California. Extremely habitat-restricted, it is found only in vernal pools deeper than 30 centimeters, with cool water that will be sustained through warmer weather and a pH of neutral nor just below neutral. It subsists as a filter feeder, consuming bacteria, algae, protozoa, and detritus. When breeding, this species produces eggs that hatch into drought-resistant cysts that will only mature if the vernal pool is deep enough and if the water is below 77 °F. Threats to this species are the loss of suitable habitat by human disturbance such as soil compaction, trampling, livestock grazing, off-road vehicles, and agricultural development. (USFWS ECOS 2014b)

Due to poor survey conditions, Chambers Group was unable to conduct focused surveys for this species in 2014. This species has **high** potential to occur with the TL 649 ROW. USFWS Critical Habitat for this species occurs south of the ROW (Appendix A). The ROW contains good quality, suitable habitat; and CNDDB lists 16 records of occurrence within 5 miles of the ROW, the closest being 1,359 feet from ROW.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) CDFW SSC, NCCP-covered

This species is found on coastal slopes from Kern County, California, south into Baja California, Mexico, between sea level and approximately 3,000 feet amsl. It occurs in a variety of habitats but prefers intermediate canopy stages of shrub habitats, grasslands, and open scrub along herbaceous and tree edges within coastal sage scrub habitats in southern California. It also occurs on agricultural lands. This species does not typically burrow but sits in depressions called forms at the bases of shrubs by day. It is chiefly nocturnal and is an opportunistic forager that feeds on a variety of herbaceous matter, depending on plant availability and time of year. Reasons for decline include habitat loss, fragmentation, and disease outbreaks.

The San Diego black-tailed jackrabbit is **present** within the TL 649 ROW. CNDDB lists 11 records of occurrence within 5 miles of the ROW, the closest being 214 feet from the ROW.

San Diego desert woodrat (*Neotoma lepida intermedia*) CDFW SSC, NCCP-covered

The San Diego desert woodrat occurs in southern California from San Diego County to San Luis Obispo County and is covered under the NCCP. It inhabits moderate to dense canopies in a variety of shrub and desert habitats, especially in rock outcrops, rocky cliffs, and slopes. The desert woodrat is often associated with large cactus patches (Montgomery 1998); within coastal sage scrub communities, it almost is invariably associated with prickly pear (*Opuntia littoralis*). This species is also found in rocky outcroppings and boulder-covered hillsides in chaparral or oak woodlands.

The San Diego desert woodrat has a **moderate** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW (570 feet from ROW), and the ROW contains moderate quality suitable habitat to support this species.

San Diego fairy shrimp (*Branchinecta sandiegonensis*) ESA endangered, NCCP-covered

San Diego fairy shrimp are found within coastal mesa systems in Orange County (small population) and San Diego County, California, and Baja California, Mexico (INRMP 2007). In San Diego County, this species has been identified from Camp Pendleton inland to the Ramona area and south through Del Mar Mesa, Proctor Valley, and Otay Mesa. It is generally limited to high quality vernal pools but can also be found in man-made pools that have not been disturbed for several years (INRMP 2007). Although less common, fairy shrimp species have been identified along road ruts with hard-pan clay type soils. It is a small, freshwater shrimp with large, stalked eyes; no carapace; and 11 pairs of swimming legs, which it uses to swim/walk upside down using a complex movement of the legs passing from back to front (NatureServe 2011). Females carry cysts (eggs) in a brood sac, which either drops off as the eggs hatch or stays attached to the female after she dies. The eggs sink to the bottom of the pool environ, where they can withstand temperature extremes or pool drying and hatch in the future when conditions are more favorable. Eggs can stay dormant for years until conditions are right. Eggs that are dropped hatch between 7 and 14 days later, depending on temperature (NatureServe 2011). Populations vary between years of favorable and unfavorable conditions, with populations being higher in the former and lower in the latter. A variation in age of “resting eggs” appears critical for the survival of this species (NatureServe 2011). Loss of habitat is the major threat to the San Diego fairy shrimp.

Due to poor survey conditions, Chambers Group was unable to conduct focused surveys for this species in 2014. This species has **high** potential to occur with the TL 649 ROW. USFWS Critical Habitat for this species occurs within the eastern portion of the ROW (Appendix A). CNDDB lists 18 records of occurrences within 5 miles of the ROW, the closest being within 1,288 feet from the ROW.

Southern California rufous-crowned sparrow (Aimophila ruficeps canescens) CDFW WL, NCCP-covered

The southern California rufous-crowned sparrow is one of 17 recognized subspecies of the rufous–crowned sparrow, whose overall range includes parts of California, Arizona, New Mexico, Texas, Oklahoma, and Arkansas, as well as Mexico. This subspecies is a resident of southwest California on the slopes of the Transverse and Coast ranges from Los Angeles County south to Baja California Norte; it can also be found on San Martin Island. Habitats include broken sage scrub and chaparral; native grasslands with sparse shrubs; and rocky, brush laden hillsides and canyons with open patches. It is a small, nondescript sparrow with a rusty crown, white eye ring, dark whisker marks, and a flat-headed appearance. It is a secretive species that is more often heard than seen as it forages among the shrubs. Habitat loss is the primary factor in the decline of the southern California rufous-crowned sparrow.

The southern California rufous-crowned sparrow can be considered **present** within the TL 649 ROW for foraging, with a **high** potential to nest within the ROW. CNDDB lists four records of occurrence within 5 miles of the ROW, the closest being 1.07 miles from the ROW. This species was observed foraging in several locations along the ROW, and the ROW contains good quality suitable habitat.

Southwestern willow flycatcher (*Empidonax traillii extimus*) ESA endangered, NCCP-covered

The summer breeding range of this species includes southern California (from the Santa Ynez River south), Arizona, New Mexico, extreme southern portions of Nevada and Utah, extreme southwest Colorado, and western Texas (USFWS 2002a). Records of probable breeding SWFL in Mexico are rare and restricted to extreme northern Baja California del Norte and Sonora. The largest California populations occur along the Santa Margarita, San Luis Rey, and South Fork Kern river systems. It is known to breed in a variety of riparian habitats with multi-tiered canopies and surface water and/or saturated soils, whether along streams in broad valleys, in canyon bottoms, around mountainside seepages, or at the margins of ponds and lakes (Grinnell and Miller 1944). Where willow species dominate, high foliage-volume willow cover is preferred but with willow clumps separated by openings (Harris et al. 1988). Habitat types may include a variety of willow, cottonwood, coast live oak, alder (*Alnus* spp.), and tamarisk woodlands. It is safely distinguished from other members of its genus only by its characteristic “fitzbew” song and breeding area. It is a relatively nondescript flycatcher with a dark back, two faint wing bars, yellow lower mandible, faint wash of yellow on the belly, and little to no eye ring. It forages for insects on the wing and embarks on short flights from favorite perches to catch the flying insects. While perched, it characteristically flicks its tail upwards on occasion. This species is in decline primarily due to extensive habitat loss and brood parasitism by the brown-headed cowbird) (Kus et al. 1999).

This species has a **moderate** potential to forage within the TL 649 ROW and **low** potential for nesting within the ROW. Breeding habitat within the ROW for this species was limited due to the lack of habitat structure and occurrence of standing water. CNDDB lists no records of occurrence within 5 miles of the ROW.

Thorne's hairstreak (*Mitoura thornei*) BLM sensitive species, NCCP-covered

The Thorne’s hairstreak butterfly is found only on Otay Mountain in southern San Diego County. On Otay Mountain, it is restricted to elevations between 800 and 3,290 feet. It is closely associated with

Tecate cypress - dominated habitat. Thorne's hairstreaks are small, plain brown butterflies. The ventral side of their wings are brown and copper with a bluish-lavender streak; the dorsal side of its wings are difficult to see in the field but are a mahogany brown color. The Tecate cypress is an integral part of this species' life history. Adults lay their eggs on this cypress, and the immatures spend the first part of their life feeding on the foliage of the cypress until they become adults. Adults are nectivorous and will venture into chaparral habitats to feed off California buckwheat, Ramona lilac (*Ceanothus tomentosus*), deerweed, and narrowleaf milkweed (*Asclepias fascicularis*). Currently, the greatest potential threat to this species is wildlfire that would destroy existing habitat (USFWS 2011).

The Thorne's hairstreak is **present** within the TL 649 ROW. CNDDB lists six records of occurrence within 5 miles of the ROW, the closest being 1.84 miles from the ROW.

Townsend's big-eared bat (*Corynorhinus townsendii*) CDFW SSC, BLM Sensitive, USFS Sensitive, WBWG high-priority species

This species ranges over most of the western United States north to southwest Canada, south into central Mexico, and east along a smaller range through the middle of the United States to Pennsylvania from sea level to 6,000 feet. This species is found in all habitat types except alpine, but it is rare throughout most of its range. Roosts are found in caves, buildings, tunnels, mines, and other human-made structures. This species hibernates singly or in groups from October to April and undergoes short migrations to hibernation roosts. Females form maternity colonies, but males are solitary in the spring and summer. Births of one young to each litter take place in May and June; the young are independent after six weeks. Moths are its main food source, but beetles and insects are consumed as well. This species has high site fidelity, but it is extremely sensitive to disturbance of roosting sites (Bat Conservation International, Inc. 2010; Gruver and Keinath 2006).

The Townsend's big-eared bat has a **low** potential to occur within the TL 649 ROW. CNDDB lists one record of occurrence within 5 miles of the ROW (4.11 miles from ROW), and the ROW contains low quality roosting habitat to support this species.

Two-striped garter snake (*Thamnophis hammondii*) CDFW SSC, BLM Sensitive, USFS Sensitive, NCCP-covered

Two-striped garter snake is found in disjunctive populations from the San Francisco area in California to northwest Baja California, Mexico. Additional populations occur several hundred miles further to the south in Baja California. The two-striped garter snake is found in or near permanent and intermittent freshwater habitats, including streams, rivers, ponds, and small lakes, from sea level to around 8,000 feet. Oak woodlands, brushlands, sparse coniferous forests, and riparian forests may surround its freshwater habitat. It is recognized by its lack of a mid-dorsal stripe, and its coloration is usually olive or brownish above and dull yellow to orange-red or salmon below. Intergrading color morphs are common. This highly aquatic snake is most active at dusk or at night, but it may also forage by day. Its diet includes tadpoles, toads, frogs, small fish, earthworms, California newt larvae, and aquatic eggs. The two-striped garter snake is a live-bearing species that gives birth to up to 36 young at a time. The life history of this species is poorly known. It is highly aquatic and is rarely seen far from water. It emerges from hibernation in the spring and may be active on warm winter days. It is active at temperatures ranging from 66.2 °F to 89.6 °F (Jennings and Hayes 1994). An estimated 40 percent of the historical range of this species has been lost to housing, urban development, and other human impacts (Stebbins 2003).

The two-striped garter snake has a **moderate** potential to occur on the TL 649 ROW. The ROW contains good quality habitat for this species, and CNDDB lists four records of occurrence within 5 miles of the ROW, the closest being 1.37 miles from the ROW.

Western mastiff bat (*Eumops perotis*) CDFW SSC, BLM sensitive species, WBWG high priority species

Western mastiff bat is a permanent resident throughout its range in southern California, southern Arizona, Texas, and south to South America. With a wingspan approaching 2 feet, the western mastiff bat is the largest bat species in North America. It is also unique in that its call can be readily identified with the unaided ear. It roosts in small colonies or singly in primarily natural substrates such as cliff faces, large boulders, and exfoliating rock surfaces. It is less commonly found in artificial structures such as buildings and roof tiles. It is found in a wide variety of habitats, including desert scrub, chaparral, woodlands, floodplains, and grasslands. Reasons for observed population declines are unknown (Ahlborn 1990).

The western mastiff bat has a **low** potential to occur within the TL 649 ROW. The ROW contains low quality roosting habitat to support this species. CNDDB lists three records of occurrence within 5 miles of the ROW, the closest being 2,801 feet from the ROW.

Western red bat (*Lasiurus blossevillii*) CDFW SSC, WBWG high priority species

Western red bats have a broad range, extending from southern British Columbia; throughout much of the western United States, Mexico, and Central America; and as far south as Argentina and Chile (Pierson and Rainey 1998). Within California this species is found in coastal areas near San Francisco Bay south to the Central Valley and into eastern portions of Riverside County and central San Diego County of southern California (Pierson and Rainey 1998). It roosts in small colonies in the foliage of trees and shrubs in edge areas adjacent to streams and open fields, preferring foraging areas that are distant from human habitation (Pierson and Rainey 1998). Western red bats are medium-sized bats best distinguished by their brick-red colored fur; short rostrum; short, rounded ears; and heavily furred interfemoral membrane (Pierson and Rainey 1998). Breeding occurs in late summer or early fall; females become pregnant in spring and give birth to 1 to 5 pups after an 80- to 90-day gestation period. This species is insectivorous and migratory. Threats to the western red bat include predation, agricultural conversion of riparian habitat, storage reservoirs that submerge riparian habitat, pesticides from agriculture, and fire (Pierson and Rainey 1998; Bat Conservation International, Inc. 2010).

The western red bat has a **low** potential to occur within the TL 649 ROW. The ROW contains low quality roosting habitat to support this species. CNDDB lists one record of occurrence within 5 miles of the ROW at 2,801 feet from the ROW.

Western small-footed myotis(*Myotis ciliolabrum*) BLM Sensitive, WBWG medium priority species

Western small-footed myotis occurs over much of the western United States into southern Canada and Mexico from sea level to over 8,900 feet in elevation. The species is found along the California coast from Contra Costa County south to the Mexican border ((Bat Conservation International, Inc. 2011b; Harris 1990a)). It is also found on both the east and west sides of the Sierra Nevada and in the Great Basin and desert habitats from Modoc County to San Bernardino County (Harris 1990a). It is found in a wide ecological range, from rock outcrops on open grasslands to canyons in the foothills to lower mountains with yellow pine woodlands. The western small-footed myotis prefers humid roost sites and has a high tolerance for cold. Day roosts are variable but include cracks and crevices in cliffs, beneath tree bark, in mines and caves, and occasionally in dwellings of humans (NatureServe 2011). Night roosts are under a variety of natural and human-introduced structures. Hibernacula include caves, mines, and tunnels where individuals usually hang singly, often exposed; although groups of 50 or more can inhabit a hibernation site (NatureServe 2011). Maternity colonies of 12 to 20 females and young can be found in buildings, caves, and mines (Harris 1990a). The western small-footed myotis often associates with Townsend's big-eared bats and can be found feeding or roosting with other species of bats. This species begins foraging well before full dark. It takes a variety of insects on the wing, including moths and beetles. Reasons for observed population declines are not entirely known at this time (Harris 1990a).

The western small-footed myotis has **low** potential to occur within the TL 649 ROW. The ROW contains low quality roosting habitat to support this species. CNDDB lists two records of occurrence within 5 miles of the ROW, the closest being 2,801 feet from the ROW.

Western snowy plover (*Charadrius alexandrines nivosis*) ESA Threatened, CDFW SSC, NCCP-covered

The western snowy plover is found the along the entire coastline of California and within scattered populations throughout the rest of the State. The entire subspecies exists within a metapopulation consisting of six subpopulations, which are as follows: Oregon and Washington Coast, Northern California Coast, San Francisco Bay, Monterey Bay, coast of San Luis Obispo, and San Diego area. They are small shorebirds with a white face and underside; light grayish brown crown and back; and black markings on its forehead, supercilium, and collar. They are found primarily along sandy dune-type habitats along shorelines where vegetation is sparse. They glean and peck at the loose substrate for invertebrates, insects, and amphipods. Breeding season lasts from April through August. Plovers nest semicolonially; shallow depressions in the sand are utilized as nests containing an average of three eggs. Threats that continue to negatively impact plover populations are mainly predation by corvids, mustelids, and other generalists as well as increased development and human recreational activities (Colwell et al. 2013).

The western snowy plover is considered **absent** from the ROW for foraging and nesting. CNDDB lists one record within 5 miles of the ROW, approximately 3.95 miles from the ROW. However, specific habitat conditions for foraging and nesting are not present within the Survey Area.

Western spadefoot (*Spea hammondii*) CDFW SSC, BLM Sensitive, NCCP-covered

The range of this toad includes the coastal slope of California from the Great Valley area into Baja California, Mexico. It inhabits lowland areas such as floodplains, washes, and playas; and it may also be found in woodland, chaparral, and grassland habitats of the foothills (California Herps 2012). This species can be found in habitats above 4,000 feet in elevation but is most commonly encountered below 3,000 feet. It prefers sparsely vegetated areas with sandy or gravelly soils, such as open grasslands, for locomotion and burrowing (Santa Ana Watershed Association 2008). From January to May, it primarily breeds in temporary pools but may also breed in slow-moving sections of streams; however, its breeding activities are primarily associated with vernal pools formed by winter rains and underlying clay hardpans. Its vertical, cat-like pupils and its horny, spade-like digging appendages on the hind feet readily identify this species. The primary threat to this species is habitat loss.

The western spadefoot toad is **present** within the TL 649 ROW. Western spadefoot toad was observed in larval form within non-jurisdictional road ruts and vernal pools generally east of SR-125 and south along the access road near Donovan State Prison. CNDDB lists two records of occurrence within 5 miles of the ROW, with the closest being 2.49 miles from the ROW.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) ESA threatened, CESA endangered, BLM sensitive, USFS sensitive species

This subspecies is rare and local, living in distinct, isolated patches that range within southwestern British Colombia and United States west of the Pecos River in Texas. Within California, the western yellow-billed cuckoo breeds in small, isolated patches near the Sacramento, Armargosa, Kern, Santa Ana, and Colorado river valleys. The western yellow-billed cuckoo is a long, medium-sized bird that is brown on the top half of its face and body and white on its bottom half. It has large white spots at the ends of its retrices; rufous on its wings; and a long, bicolored, decurved bill with a large yellow mandible. Western yellow-billed cuckoo is an uncommon and rare bird in California due to its strict habitat requirements. It is found only in large patches (greater than 40 hectares) of cottonwood-willow riparian woodlands. Within these habitats, it requires heavy canopy cover (greater than 40 percent), a slow-moving water source, high humidity, dense foliage, and intermediate foliage height. When foraging, it relies on the presence of cottonwood trees when gleaning foliage for caterpillars, tree frogs, katydids, and grasshoppers. Breeding season lasts from June to early September. This species nests exclusively in willows and creates flimsy open-cup nests made mostly of twigs. Each season produces one clutch of three to four eggs, and young are hatched asynchronously. This species suffered a devastating decline in the west as a result of loss of suitable nesting habitat due to human development. Due to its strict habitat requirements, it is extremely sensitive to any further habitat loss, degradation, and fragmentation. Habitat restoration has become critical in the management of this species due to the fact that preserving what little suitable habitat exists is not enough to sustain any population growth. The recent federal listing of the species as threatened has allotted the designation of critical habitat for this species (USFWS ECOS 2014e).

This species has **moderate** potential to occur within the TL 649 ROW for foraging and **low** potential for nesting. This species does not show any record entries within the USFWS species occurrence data. This species was not observed in the Survey Area during focused surveys conducted by Chambers Group in 2014. CNDDB lists two records of occurrence within 5 miles of the ROW, with the closest being 2,461 feet from the ROW.

White-faced Ibis (*Pelgadis chihi*) CDFW WL, NCCP-covered

Distribution of white-faced ibis is discontinuous throughout its range, which spans most of the western and midwestern United States, going as far east as western Louisiana. The greatest concentrations of ibis are found within the Great Basin, eastern Texas, and Louisiana. It has become an uncommon and rare breeder in California; this species has been documented nesting within the San Joaquin Valley and throughout the Salton Sea. The white-faced ibis is a medium-sized wading bird. It has a chestnut-bronze head and neck; slightly iridescent black back; a long, decurved bill; and a ring of white feathers that encircles its face around its eyes. When in California, it is mainly found in freshwater marshes, but it also utilizes flooded agricultural fields and meadows. It probes the mud or shallow water's surface for earthworms, insects, crustaceans, amphibians, small fishes, and invertebrates. Breeding season lasts from April to July. Nests holding one clutch of three to five eggs are typically placed in low emergent vegetation or on the ground. Threats to this species include the destruction and fragmentation of extensive marshes and pesticide use (Audubon 2014a; Ryder and Manry 1994; USFWS undated; Zeiner et al. 1988-1990)

The white-faced ibis can be considered **present** on the TL 649 ROW for foraging; however, it is considered **absent** from the ROW for nesting. This species has special nesting habitat restrictions not found within the Survey Area. CNDDB lists no records of occurrence within 5 miles of the ROW.

White-tailed kite (*Elanus leucurus*) CDFW FP, BLM Sensitive

In the United States, the range of the white-tailed kite extends along the Pacific coast from southwest Washington through California and also includes south-central Arizona, south Texas, and south Florida. It also occurs in Mexico and Central America. In California, it is a resident and localized migrant of the Central Valley and Pacific coast. Evidence in recent years suggests that the range of this species is increasing, although erratic shifts in the distribution of this species are not uncommon. It inhabits low to moderate-elevation grasslands, savannas, agricultural areas, wetlands, oak woodlands, marshes, and riparian woodlands and usually breeds in open areas with scattered trees, often near water. The white-tailed kite is a medium-sized hawk with a white head; grey back; long, white tail; and large, black scapulars. It forages often by "kiting," or hovering in one area while scanning the ground for potential prey. Its diet includes primarily small mammals, but it will also take large insects, amphibians, and lizards. Degradation or loss of grassland habitat to development or ranching is a significant threat to populations (Dunk 1995). Historical population declines may be attributed to chemical poisoning.

The white-tailed kite can be considered **present** on the TL 649 ROW for foraging purposes and has a **low** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Yellow-breasted chat (*Icteria virens*) CDFW SSC

This species is found throughout most of the United States with the exception of the northeast. Within California, it breeds near most of the coast of California, excluding the bay area, throughout the North Coast and Sacramento Valley, and along the western edge of the Sierra Nevada. It is a medium-sized passerine with white "spectacles," olive-green on the top half of its body, white undersides, and its namesake bright yellow chest. More likely to be heard than seen, it skulks about in early-successional brushy riparian thickets. It prefers to forage and nest within areas of low, dense, and tangled vegetation near rivers. When foraging, the chat will glean the vegetation for spiders, insects, berries, and fruit. Breeding season lasts from early May to early August. Nests are bulky open cups made of grass, bark, weeds, and roots and are typically placed within 3 feet of the ground. Each season yields one clutch of three to six eggs. This species is especially susceptible to nest parasitism by brown-headed cowbirds, which contributes to the chat's population decline. Other threats to the yellow-breasted chat's population are predation and loss of suitable riparian habitat (Eckerle and Thompson 2001).

The yellow warbler can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists three records of occurrence within 5 miles of the ROW, the closest being 237 feet from the ROW.

Yellow Warbler (*Dendroica petechia*) CDFW SSC

The yellow warbler's breeding range includes most of North America from northern Alaska and northern Canada to the southern United States and Mexico. Wintering birds occur from Mexico to Peru. Breeding habitats include wet areas such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories. In migration, this species may occur in other habitats, including early seral riparian habitats. Its plumage is more extensively yellow than other North American wood-warblers, and it is also unique in having yellow on the inner webs of its tail feathers (except the middle pair). Males show rusty streaking on the breast. It is almost entirely insectivorous but also eats a few berries. Populations are in decline in California due to habitat loss, grazing of riparian understories, and brood parasitism by the brown-headed cowbird.

The yellow warbler can be considered **present** on the TL 649 ROW for foraging purposes and has a **moderate** potential to nest on the ROW. CNDDB lists no records of occurrence within 5 miles of the ROW.

Yuma myotis (Myotis yumanensis) BLM Sensitive, WBWG Low-Medium Priority

This species is found from British Columbia south through Washington, Oregon, Arizona, New Mexico, parts of the surrounding states, and into Mexico. In California, this species is common and widespread except in the Mojave and Colorado desert regions, although it is found within the mountain ranges bordering the Colorado River Valley. It is a colonial bat species that roosts in crevices in a variety of both natural and artificial substrates. Thousands of individuals may be found in roost sites, clinging together to conserve body heat. Like most bat species, it can be found in a wide variety of habitats, although its optimal habitats are open forest and various woodland associations with sources of water over which to feed. The Yuma myotis is strongly correlated with open water, perhaps more so than any other North American bat species. This species mates in the fall, and the young are born from late May to mid June. This species will feed and roost with other bat species (CDFW and CIWTG 1990a; NatureServe 2012c).

The Yuma myotis has a **low** potential to occur within the TL 649 ROW. CNDDB lists six records of occurrence within 5 miles of the ROW (the closest being 2,801 feet from ROW), and the ROW contains low quality roosting habitat to support this species.

APPENDIX F – SITE PHOTOGRAPHS

Photo 1. This photo shows CRPR List 2B.1 California adolphia (*Adolphia californica*)

Photo 2. This photo shows CRPR List 2B.1 San Diego bur sage (*Ambrosia chenopodifolia*)

Photo 3. This photos shows an aspect shot of several CRPR List 2B.2 singlewhorl burrobush (*Ambrosia monogyra*) individuals located in a dry wash.

Photo 4. This photo shows CRPR List 4.2 San Diego sagewort (*Artemisia palmeri)*

Photo 5. This photo shows an aspect shot of several CRPR List 2B.2 golden-spined cereus *(Bergerocactus emoryi)* individuals and San Diego bur sage (middle)

Photo 6. This photo shows CRPR List 1B.1 and NCCP-Covered San Diego golden star *(Bloomeria clevelandii).*

Photo 7. This photo shows federally-listed threatened, state-listed endangered, CRPR List 1B.1, and NCCP-Covered Otay tarplant (*Deinandra conjugens*).

Photo 8. This photo shows federally-listed endangered, state-listed endangered, CRPR List 1B.1, and NCCP-Covered San Diego button-celery (*Eryngium aristulatum* var. *parishii*).

Photo 9. This photo shows CRPR List 2B.2 cliff spurge (*Euphorbia misera*).

Photo 10. This photo shows CRPR List 2B.1, NCCP-Covered San Diego barrel cactus (*Ferocactus viridescens*).

Photo 11. This photo shows CRPR List 4.2 Palmer's grapplinghook (*Harpagonella palmeri*).

Photo 12. This photo shows CRPR List 1B.2 decumbent goldenbush (*Isocoma menziesii* var. *decumbens*).

Photo 13. This photo shows both CRPR List 2B.2 San Diego marsh-elder (*Iva hayesiana*) in the foreground and CRPR List 4.2 southwestern spiny-rush (*Juncus acutus* subsp. *leopoldii).*

Photo 14. This photo shows an aspect shot of several state-listed endangered, CRPR List 2B.1, and NCCP-Covered small-leaved rose (*Rosa minutifolia*) and San Diego bur sage.

APPENDIX G – CALIFORNIA GNATCATCHER AND COASTAL CACTUS WREN REPORT

2014
TIE-LINE 649 WOOD TO STEEL POLE REPLACEMENT PROJECT CALIFORNIA GNATCATCHER AND COASTAL CACTUS WREN SURVEY REPORT

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October 2014

TL649
2014 CALIFORNIA GNATCATCHER AND COASTAL CACTUS WREN SURVEY REPORT

Biologist Signature Page

October 2014

The undersigned certify this report to be a complete and accurate account of the findings and conclusions of focused surveys for California Gnatcatcher and Coastal Cactus Wren conducted during the breeding bird season of year 2014, within suitable habitat on the San Diego Gas & Electric Tie-line 649 Project, San Diego County, California

Phillip Howard FWS Permit # TE-15264B-0	8 October 2014 Date
Travis Cooper FWS Permit # TE-170389-4	11 October 2014 Date
John Dicus FWS Permit # TE-839960-6	11 October 2014 Date
Melanie Dicus FWS Permit # TE-049175-3	11 October 2014 Date

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SECTION 1.0 – INTRODUCTION

The purpose of this report is to document the results of the protocol California gnatcatcher (*Polioptila californica californica*; CAGN) and coastal cactus wren (*Campylorhynchus brunneicapillus*; CACW) surveys conducted by Chambers Group, Inc. (Chambers Group) during the 2014 bird breeding season.

1.1 PROJECT DESCRIPTION

SDG&E proposes the Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Proposed Project or Project) in an effort to fire-harden existing facilities in SDG&E's service territory. SDG&E proposes to replace wood poles with steel poles along approximately seven miles of the existing 69-kilovolt (kV) single-circuit power line. This segment of the Proposed Project is located in the cities of San Diego and Chula Vista, California (State), as well as unincorporated San Diego County (County). The Proposed Project extends east from Black Coral Way and Sea Lavender Way in the City of San Diego for approximately five miles; then travels south for approximately two miles to just north of Otay Mesa Road in unincorporated San Diego County. Over this distance, the Project traverses private and public lands, including lands owned by the County of San Diego, the City of San Diego, the City of Chula Vista, the State of California, and SDG&E. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

Specifically, SDG&E proposes to conduct the following activities as part of the Proposed Project:

- Remove approximately 132 existing wood power line and interset distribution line poles and replace them with approximately 117 galvanized steel structures. Of the 117 replacement structures, approximately 21 poles will require a pier foundation, approximately seven will require a micropile foundation, and the remaining 89 will be directly buried;

- Conduct overhead work on approximately two existing power line poles and approximately one existing distribution line pole;

- Convert approximately 430 feet of underground power line cable under State Route (SR) 125 to an overhead configuration;

- Transfer existing 69 kV power line conductors to the new steel poles;

- Transfer approximately 1.5 miles of existing distribution conductors and replace approximately 3.9 miles of distribution conductors with new aluminum conductor steel-reinforced distribution conductors.

SDG&E will utilize approximately 28 stringing sites, two temporary guard structures, and two staging areas during construction of the Proposed Project. The Proposed Project is consistent with SDG&E's efforts to improve reliability in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line according to the existing vegetation and fuel conditions, the history of high-speed winds in the area, and the age and condition of the existing facilities as part of an overall strategy to strengthen power lines for improved system reliability. SDG&E periodically reviews and updates the prioritization of these poles for replacement based on changes in field conditions, such as increases in the density of vegetation (fire fuel)

surrounding existing poles. The Proposed Project incorporates updated design standards to reduce fire risks and will implement a Project-specific fire plan to minimize fire risks during construction.

1.2 CALIFORNIA GNATCATCHER

The CAGN is a federally listed threatened species, a California Species of Special Concern (SSC) and protected under SDG&E's NCCP Section 7.1 Operational Protocols to avoid, minimize, or mitigate impacts as a result of project-related activities. The historic range of this species extended from the coast and foothills of Ventura County, south through Los Angeles, southwestern San Bernardino, western Riverside, Orange, and San Diego counties of California into northwestern Baja California, Mexico. Populations have since become increasingly fragmented. This species is a permanent resident of Diegan, Riversidian, and Venturan sage scrub sub-associations found from sea level to 2,500 feet in elevation. Within its range, it associates strongly with California sagebrush (*Artemisia californica*) dominant habitats and also occurs in mixed scrub habitats with lesser percentages of this favored shrub. Other plant species important for the nesting and foraging of this species include California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), and chaparral broom (*Baccharis sarothroides*). Chamise (*Adenostoma fasciculatum*) habitats may also support breeding pairs, especially where coastal sage scrub occurs nearby or forms a component (Bontrager 1991).

The CAGN is a small, secretive songbird with grayish coloration and faint white outer tail margins. Males of this species exhibit a black cap during the breeding season. The breeding season extends from about February 15 through August 31, with peak nesting activity occurring from mid-March to mid-May. The incubation period is approximately 14 days, and the young fledge at 8 to 13 days but may be dependent upon their parents for at least three weeks and may stay associated with their parents for several months.

Although observed declines in numbers and distribution of the CAGN have resulted from numerous factors, habitat destruction, fragmentation, and adverse modification are the principal reasons for the CAGN's current threatened status (USFWS 1993). The amount of coastal sage scrub available to CAGN has continued to decrease during the period after the listing of the species. It is estimated that up to 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Barbour and Major 1977), and coastal sage scrub is considered to be one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1987; O'Leary 1990).

1.3 COASTAL CACTUS WREN

The CACW is a SSC and is a narrow endemic (NE) species covered under SDG&E's Natural Community Conservation Plan (NCCP). Impacts to species designated as NE under SDG&E's NCCP are to be avoided as a primary means of mitigation. If impacts may occur to NE species, SDG&E will coordinate with United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) regarding additional mitigation for potential impacts. Coastal populations of the CACW occur from southern Ventura County, southeast to the Baldwin Hills and the Palos Verdes Peninsula in Los Angeles County, and east along the southern flank of the San Gabriel and San Bernardino mountains from the northern San Fernando Valley in Los Angeles County to Mentone in San Bernardino County. Populations also extend south along the coastal slopes and interior valleys west of the Peninsular Ranges in western Riverside, Orange, and San Diego counties to extreme northwestern Baja California, Mexico, in the vicinity of Tijuana and Valle de las Palmas (Harper and Salata 1991).

The CACW's preferred habitat includes coastal sage scrub interlaced with patches of *Opuntia spp.* and*Cylindropuntia spp.* cacti (such as chollas and prickly pear), which it uses almost exclusively for the construction of nests (Unitt 2008). The nests are remarkably large and conspicuous, given the size of the bird, and are constructed as woven spherical nests with a side opening in the branches of the host cactus. CACW nest primarily from early March through July, and young disperse only a short distance from nesting sites. CACW are considered year-round residents throughout their range in California. No migration or long-distance seasonal movements are observed from this species. CACW establish resident territories and maintain them for life.

This species is predominantly insectivorous, foraging on the ground and within vegetation for a variety of insects, including caterpillars, moths, and grasshoppers. Habitat loss, degradation, and fragmentation are the most critical management issues facing this species. Although the species appears capable of sustaining breeding populations in small, fragmented areas containing suitable habitat, isolation of coastal populations due to urban fragmentation may be promoting loss of genetic variation and compromise long-term metapopulation viability (Solek and Szijj. 2004).

SECTION 2.0 – METHODOLOGY

2.1 SURVEY AREA

The survey area included suitable habitat, as defined in Sections 1.2 and 1.3, within the Proposed Project right-of-way (ROW) and within 150 feet of the ROW centerline (Figure 1). For facilities (i.e., stringing sites, staging yards, etc.) proposed outside this buffer, a 50-foot wide buffer around the facility was surveyed. For access roads outside the buffer, the access road plus a 20-foot-wide buffer on either side of the edges of the access road was surveyed. Because the majority of the coastal sage scrub habitat suitable for breeding by the target species lay outside the survey buffer, habitat adjacent to the survey area was opportunistically surveyed in order to increase the chance of detecting the target species near the Proposed Project ROW that may disperse within the survey area.

2.2 HABITAT ASSESSMENT

Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CNDDB 2014) were reviewed for the quadrangles containing and surrounding the Survey Area (i.e., Imperial Beach and Otay Mesa USGS 7.5-minute quadrangles); a 5-mile radius surrounding the Proposed Project ROW was reviewed. The 2014 CAGN surveys were assigned to locations based on a combination of aerial imagery, CNDDB records and habitats types mapped during focused plant surveys by Chamber's Group in April 2014. During the first round of CAGN focused surveys these areas were confirmed as suitable or removed if unsuitable. CACW surveys were assigned to locations with cactus stands suitable for nesting, including large patches of coastal cholla (*Cylindropuntia prolifera*) and coastal prickly pear (*Opuntia littoralis*). All suitable locations were identified during focused plant surveys conducted by Chambers Group botanists in April 2014 and during the initial round of focused surveys for CAGN. Subsequent surveys were conducted in all areas that contained suitable nesting habitat for the target species.

2.3 FOCUSED SURVEYS

All CAGN focused surveys were conducted by biologists holding the necessary federal Endangered Species Act (ESA) section 10(a)(1)(A) survey permit. Surveys were conducted according to the USFWS presence or absence survey guidelines (USFWS 1997). No survey protocol for CACW exists; therefore, these surveys occurred concurrently with CAGN surveys.

The Proposed Project survey area falls within SDG&E's NCCP boundaries. Per section III of the USFWS presence or absence survey guidelines (USFWS 1997), three focused surveys were conducted at least one week apart in areas of suitable habitat between the hours of 0600 and 1200. Periods of excessive or abnormal heat, wind, fog, and other inclement weather were avoided, and no more than 80 acres (32 hectares) were surveyed per biologist per day.

Surveys were conducted by biologists slowly walking transects within suitable habitat within the survey areas and using binoculars to achieve 100 percent visual coverage. All cacti encountered were visually searched for CACW nests. Taped vocalizations were used only to initially locate individual CAGN, and tapes were not used frequently or to further elicit behaviors from any previously detected individuals. Information was recorded on the survey methods performed, including surveyor per day, start and stop times of survey, and weather conditions (Table 1: Survey Conditions Summary), and survey routes delineated on maps (Figures 1 and 2).

Data was collected on the number, approximate age, class, sex, and color band information (if any was observed). All CAGN and CACW detections (e.g., vocalization, foraging behavior, nesting behavior, etc.) were recorded using hand-held Global Positioning Systems (GPS) units and photo documented when possible.

SECTION 3.0 – RESULTS

3.1 CALIFORNIA GNATCATCHER

The coastal sage scrub habitat adjacent to the Proposed Project ROW is well suited for CAGN. CNDDB lists 31 records of occurrence of this species within 5 miles of the TL 649 ROW. Two of these observations were within 1,000 feet of the ROW. In addition, the ROW contains good quality suitable habitat for both foraging and nesting purposes. Several patches of occupied habitat occur within the survey area (Figure 2: Survey Results). Approximately 30 pairs of CAGN were observed using these areas. For a complete list of all CAGN observations see

Table 2: California Gnatcatcher and Coastal Cactus Wren Observations

. The majority of these observations were clustered on the western end of the Proposed Project-site between locations 1 and location 6 and in Otay River valley from Heritage Road east to location 78, where the line shifts south and out of the valley.

3.2 COASTAL CACTUS WREN

Suitable breeding habitat for CACW within the survey area was extremely limited. CNDDB lists 15 records of occurrence within 5 miles of the ROW, with 2 less than 1,000 feet from the ROW. Only three patches of cactus offering low quality nesting substrate were observed (Figure 2). No individuals or signs of nesting were observed in the Proposed Project ROW. High quality stands of *Opuntia* cactus were found to support at least one pair of CACW approximately 1,000 feet south of location 58= on the south-facing hillside (Figure 2, Table 2).

SECTION 4.0 – DISCUSSION AND RECOMMENDATIONS

Adult and juvenile CAGN from territories identified in the 2014 surveys, as well as dispersing individuals from adjacent habitat, will likely form breeding territories in future nesting seasons in similar locations along the Proposed Project ROW. The western end of the Proposed Project-site between locations 1 and location 6 and in Otay River valley from Heritage Road east to location 78 has the highest potential for nesting, and habitat within these areas should be maintained to the greatest extent possible during construction activities.

Virtually no suitable breeding habitat for CACW was documented within the survey area. It is not expected that breeding CACW will occur within the Proposed Project area, and no direct impacts to this species are anticipated. The three patches of cactus that were observed within the ROW that could support CACW nest were low in quality. These stands were currently very small and unfavorable for nesting. CACW prefer to nest in large patches of *Opuntia* cactus (ranging in size from 0.8 to 2.0 hectares) located on south-facing slopes, at bases of hillsides, or in dry washes. However, These areas should be maintained to the greatest extent possible during construction activities to avoid indirect impacts to CACW as in future years these patches could grow large enough to support nesting individuals if left untouched.

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Table 1: Survey Conditions Summary

Date	Personnel	Time		Temp. (°F)	Wind (mph)	Sky (% Cloud)
Round 1						
5/27/2014	P. Howard	Start	0600	64	0-3	30
		End	1100	80	0-3	10
5/28/2014	P. Howard	Start	0600	64	0-3	60
		End	1040	70	0-6	10
5/31/2014	P. Howard	Start	0600	70	0-3	50
		End	1100	75	0-7	10
6/1/2014	P. Howard	Start	0600	64	0-3	100 light mist
		End	1100	72	0-3	50
6/3/2014	P. Howard	Start	0600	64	0-3	30
		End	1100	80	0-3	10
Round 2						
6/12/2014	P. Howard, S. Howard	Start	0615	67	0-2	20
		End	1030	75	0-5	0
6/13/2014	P. Howard, T. Cooper	Start	0600	68	0-1	75
		End	1100	80	0-3	0
6/14/2014	P. Howard, T. Cooper	Start	0600	65	0-1	75
		End	1100	78	0-3	0
6/15/2014	P. Howard, T. Cooper	Start	0600	62	0-1	40
		End	1100	75	0-3	0
6/16/2014	P. Howard, T. Cooper	Start	0600	64	0	20
		End	1100	78	0	0
6/17/2014	J. Dicus, M. Dicus	Start	0600	60	0-3	0
		End	1300	64	0-5	0
6/18/2014	J. Dicus, M. Dicus	Start	0600	60	0-2	0
		End	1300	64	0-6	0
Round 3						
7/10/2014	T. Cooper, H. Franklin	Start	0600	65	0-5	40
		End	1100	72	5-10	0
7/11/2014	T. Cooper	Start	0600	62	0-1	60
		End	1100	75	0-3	10

Table 1: Survey Conditions Summary

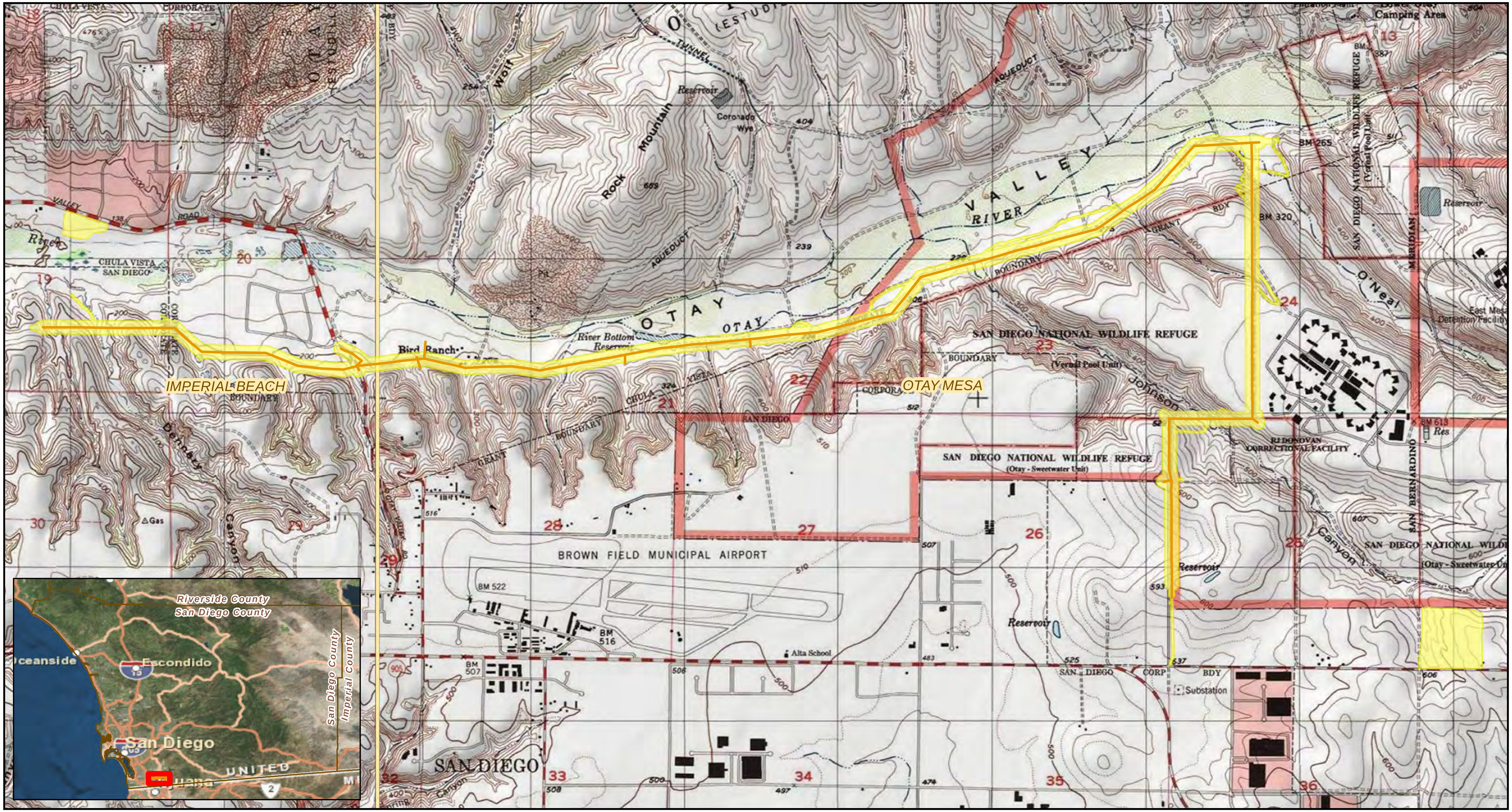
Date	Personnel	Time		Temp. (°F)	Wind (mph)	Sky (% Cloud)
7/12/2014	T. Cooper, C. Congedo	Start	0600	66	0-1	50
		End	1100	78	0-5	0
7/13/2014	T. Cooper	Start	0600	66	0-1	50
		End	1100	78	0-5	0
7/15/2014	J. Dicus, M. Dicus	Start	0600	68	0	100
		End	1130	*70*	0-3	100

Table 2: California Gnatcatcher and Coastal Cactus Wren Observations

Date	Observer	Species	Number	Latitude	Longitude	Inside/Outside Buffer
6/16/2014	P Howard	Cactus Wren	2	32.58877	-116.95501	Outside
4/23/2014	P Howard	California Gnatcatcher	2	32.58862	-117.02004	Inside
4/23/2014	P Howard	California Gnatcatcher	1	32.58634	-116.97420	Inside
5/2/2014	P Howard	California Gnatcatcher	1	32.58706	-116.97688	Outside
5/2/2014	P Howard	California Gnatcatcher	1	32.59818	-116.94320	Inside
5/8/2014	P Howard	California Gnatcatcher	1	32.58892	-117.01993	Outside
5/20/2014	T Cooper	California Gnatcatcher	2	32.59306	-116.95315	Inside
5/21/2014	T Cooper	California Gnatcatcher	2	32.59066	-117.02325	Outside
5/27/2014	P Howard	California Gnatcatcher	2	32.58924	-117.02087	Inside
5/27/2014	P Howard	California Gnatcatcher	2	32.58893	-117.02319	Outside
5/27/2014	P Howard	California Gnatcatcher	2	32.58817	-117.02058	Outside
5/28/2014	P Howard	California Gnatcatcher	2	32.58615	-117.01553	Outside
5/28/2014	P Howard	California Gnatcatcher	2	32.58550	-117.01160	Outside
5/28/2014	P Howard	California Gnatcatcher	1	32.58373	-117.01158	Outside
5/28/2014	P Howard	California Gnatcatcher	1	32.58520	-117.00367	Inside
5/29/2014	P Howard	California Gnatcatcher	2	32.58719	-116.97686	Outside
5/29/2014	P Howard	California Gnatcatcher	1	32.58672	-116.97866	Inside
5/31/2014	P Howard	California Gnatcatcher	1	32.59263	-116.95139	Outside
5/31/2014	P Howard	California Gnatcatcher	2	32.59635	-116.94444	Outside
5/31/2014	P Howard	California Gnatcatcher	4	32.59537	-116.94717	Inside
6/1/2014	P Howard	California Gnatcatcher	2	32.59731	-116.94391	Inside
6/1/2014	P Howard	California Gnatcatcher	2	32.59909	-116.94242	Outside
6/1/2014	P Howard	California Gnatcatcher	2	32.59854	-116.94175	Inside
6/1/2014	P Howard	California Gnatcatcher	5	32.59853	-116.93820	Inside
6/1/2014	P Howard	California Gnatcatcher	2	32.59826	-116.93728	Inside
6/1/2014	P Howard	California Gnatcatcher	1	32.59836	-116.94270	Inside
6/4/2014	P Howard	California Gnatcatcher	1	32.58836	-117.02210	Outside
6/5/2014	P Howard	California Gnatcatcher	2	32.58806	-117.02306	Outside
6/6/2014	P Howard	California Gnatcatcher	1	32.58956	-117.00241	Outside
6/6/2014	P Howard	California Gnatcatcher	2	32.59088	-117.00918	Outside
6/6/2014	P Howard	California Gnatcatcher	1	32.59094	-117.00783	Outside
6/6/2014	P Howard	California Gnatcatcher	1	32.59074	-117.01263	Outside
6/6/2014	P Howard	California Gnatcatcher	1	32.59070	-117.01227	Outside
6/6/2014	P Howard	California Gnatcatcher	1	32.58883	-116.99999	Outside
6/12/2014	P Howard	California Gnatcatcher	1	32.58797	-117.02005	Inside
6/12/2014	P Howard	California Gnatcatcher	1	32.58869	-117.01984	Outside
6/12/2014	P Howard	California Gnatcatcher	2	32.58903	-117.02103	Inside
6/12/2014	P Howard	California Gnatcatcher	1	32.58892	-117.02330	Outside

Table 2: California Gnatcatcher and Coastal Cactus Wren Observations

Date	Observer	Species	Number	Latitude	Longitude	Inside/Outside Buffer
6/12/2014	P Howard	California Gnatcatcher	1	32.58745	-117.02186	Inside
6/12/2014	P Howard	California Gnatcatcher	1	32.58733	-117.02310	Inside
6/12/2014	P Howard	California Gnatcatcher	1	32.58842	-117.02208	Outside
6/12/2014	P Howard	California Gnatcatcher	1	32.58566	-117.01556	Outside
6/12/2014	P Howard	California Gnatcatcher	2	32.58692	-117.01579	Outside
6/13/2014	P Howard	California Gnatcatcher	2	32.58968	-117.01362	Outside
6/13/2014	P Howard	California Gnatcatcher	2	32.58571	-117.01176	Inside
6/13/2014	T Cooper	California Gnatcatcher	1	32.58525	-117.00535	Inside
6/13/2014	P Howard	California Gnatcatcher	1	32.59088	-117.00860	Outside
6/13/2014	P Howard	California Gnatcatcher	1	32.59099	-117.01006	Outside
6/13/2014	P Howard	California Gnatcatcher	1	32.58566	-117.00631	Inside
6/13/2014	P Howard	California Gnatcatcher	1	32.59073	-117.01216	Outside
6/13/2014	P Howard	California Gnatcatcher	1	32.58532	-117.00250	Inside
6/13/2014	P Howard	California Gnatcatcher	1	32.58882	-117.00050	Outside
6/13/2014	P Howard	California Gnatcatcher	2	32.58952	-117.00304	Outside
6/13/2014	T Cooper	California Gnatcatcher	1	32.58522	-117.00379	Inside
6/14/2014	P Howard	California Gnatcatcher	1	32.58435	-116.98743	Outside
6/15/2014	P Howard	California Gnatcatcher	1	32.59284	-116.95316	Inside
6/15/2014	P Howard	California Gnatcatcher	1	32.59269	-116.95140	Inside
6/15/2014	P Howard	California Gnatcatcher	2	32.59408	-116.95007	Inside
6/15/2014	P Howard	California Gnatcatcher	1	32.59341	-116.94991	Inside
6/15/2014	P Howard	California Gnatcatcher	4	32.59408	-116.94762	Outside
6/15/2014	P Howard	California Gnatcatcher	2	32.59496	-116.94763	Inside
6/15/2014	P Howard	California Gnatcatcher	1	32.59560	-116.94565	Inside
6/15/2014	P Howard	California Gnatcatcher	1	32.59831	-116.93966	Inside
6/15/2014	P Howard	California Gnatcatcher	3	32.59846	-116.94061	Inside
6/16/2014	P Howard	California Gnatcatcher	1	32.59897	-116.94196	Inside
6/17/2014	M Dicus	California Gnatcatcher	1	32.58995	-116.95806	Outside
6/17/2014	M Dicus	California Gnatcatcher	2	32.59091	-116.95907	Inside
6/17/2014	M Dicus	California Gnatcatcher	2	32.59723	-116.94574	Outside
6/17/2014	M Dicus	California Gnatcatcher	1	32.59399	-116.93821	Outside
6/17/2014	M Dicus	California Gnatcatcher	2	32.59687	-116.93886	Inside
6/17/2014	M Dicus	California Gnatcatcher	1	32.59735	-116.94051	Outside
6/17/2014	JWDicus	California Gnatcatcher	2	32.59746	-116.94047	Inside
6/18/2014	M Dicus	California Gnatcatcher	2	32.58896	-116.95553	Outside
6/18/2014	M Dicus	California Gnatcatcher	1	32.58619	-116.99123	Outside
6/19/2014	T Cooper	California Gnatcatcher	1	32.59096	-117.02604	Outside
6/19/2014	T Cooper	California Gnatcatcher	1	32.59096	-117.02608	Outside



Legend

— Transmission Centerline

🟨 Survey Corridor

▭ USGS 7.5-min Quadrangle

Figure 1
Overview Map

N

0 0.25 0.5 1
Miles

Scale = 1:24,000

Name: 20775 CAGN Fig1 Overview Map.Mxd
Print Date: 8/3/2015, Author: msimmons

CHAMBERS GROUP

Legend

Survey Corridor (100ft Buffer)

Work Area Type Proposed

▨ Proposed Staging Yard

N

0 125 250 500

Feet

Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

Legend

- Transmission Centerline
- Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

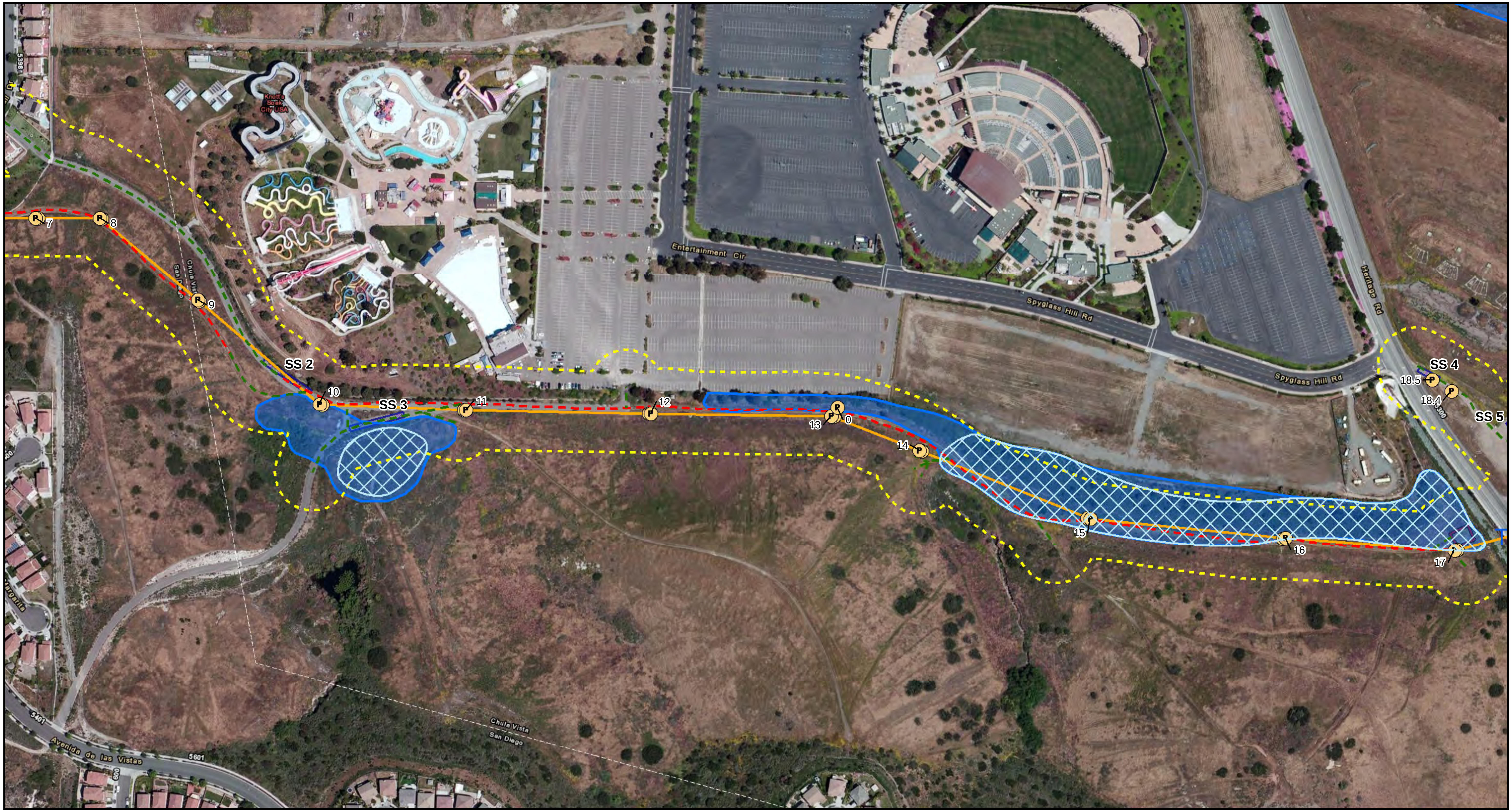
- ▨ Proposed String Site
- ☐ Proposed Turnaround Area
- ▨ CAGN Occupied Habitat
- 🟦 CAGN Suitable Habitat
- 🟩 Coastal cholla (Cylindropuntia prolifera)

N

0 125 250 500
Feet

Figure 2
California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

Transmission Centerline
Survey Corridor (100ft Buffer)
Project Pole
Guard Structure

Access Type

Existing Non-TCM Access Road
Access Road

Work Area Type Proposed

Proposed String Site

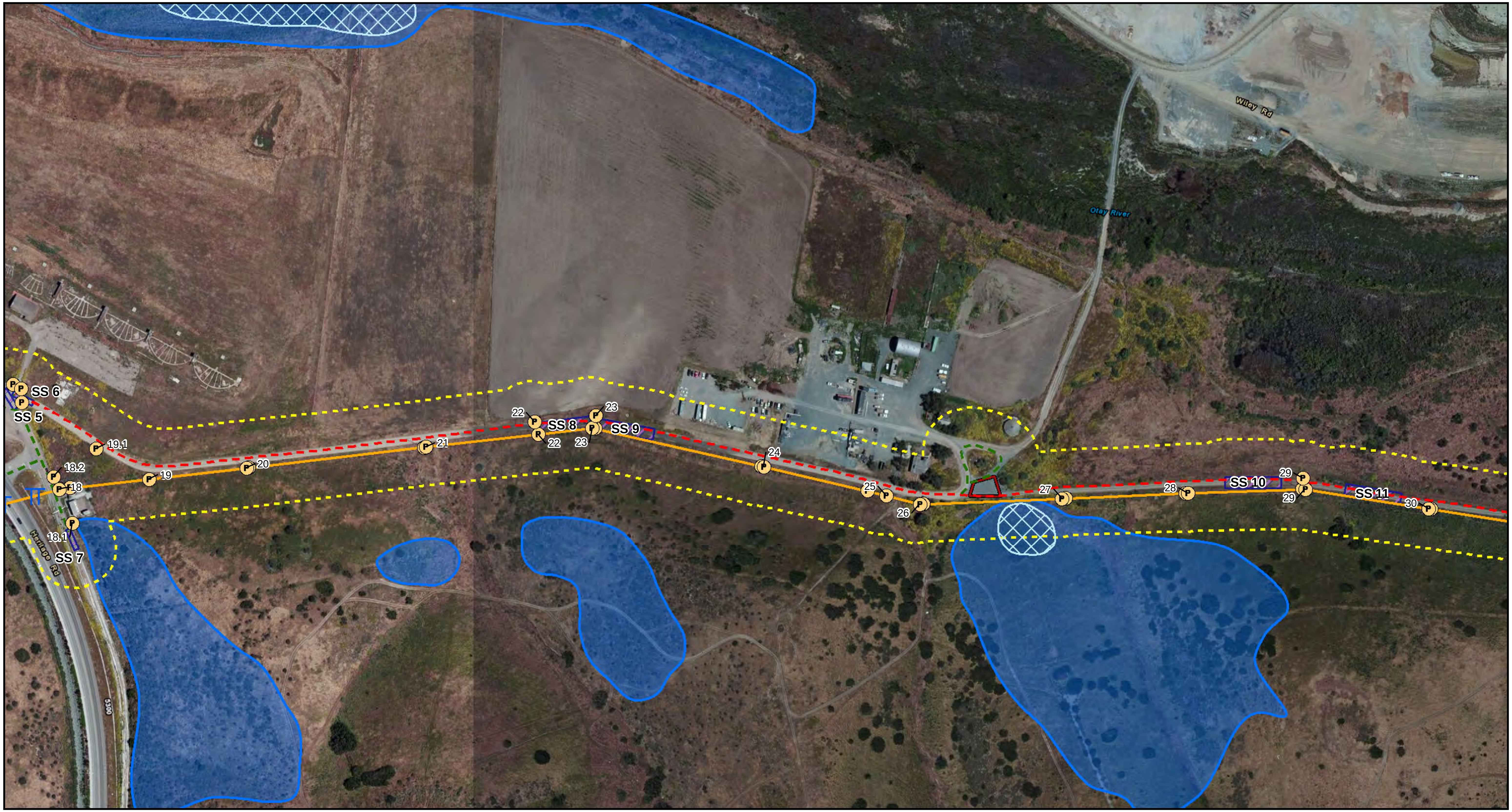
Proposed Turnaround Area
CAGN Occupied Habitat
CAGN Suitable Habitat

N

0 125 250 500
Feet

Figure 2
California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

- Transcription Centerline
- Survey Corridor (100ft Buffer)
- Ⓟ Project Pole
- Guard Structure

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type Proposed

- ▨ Proposed String Site
- Proposed Turnaround Area
- CAGN Occupied Habitat
- CAGN Suitable Habitat

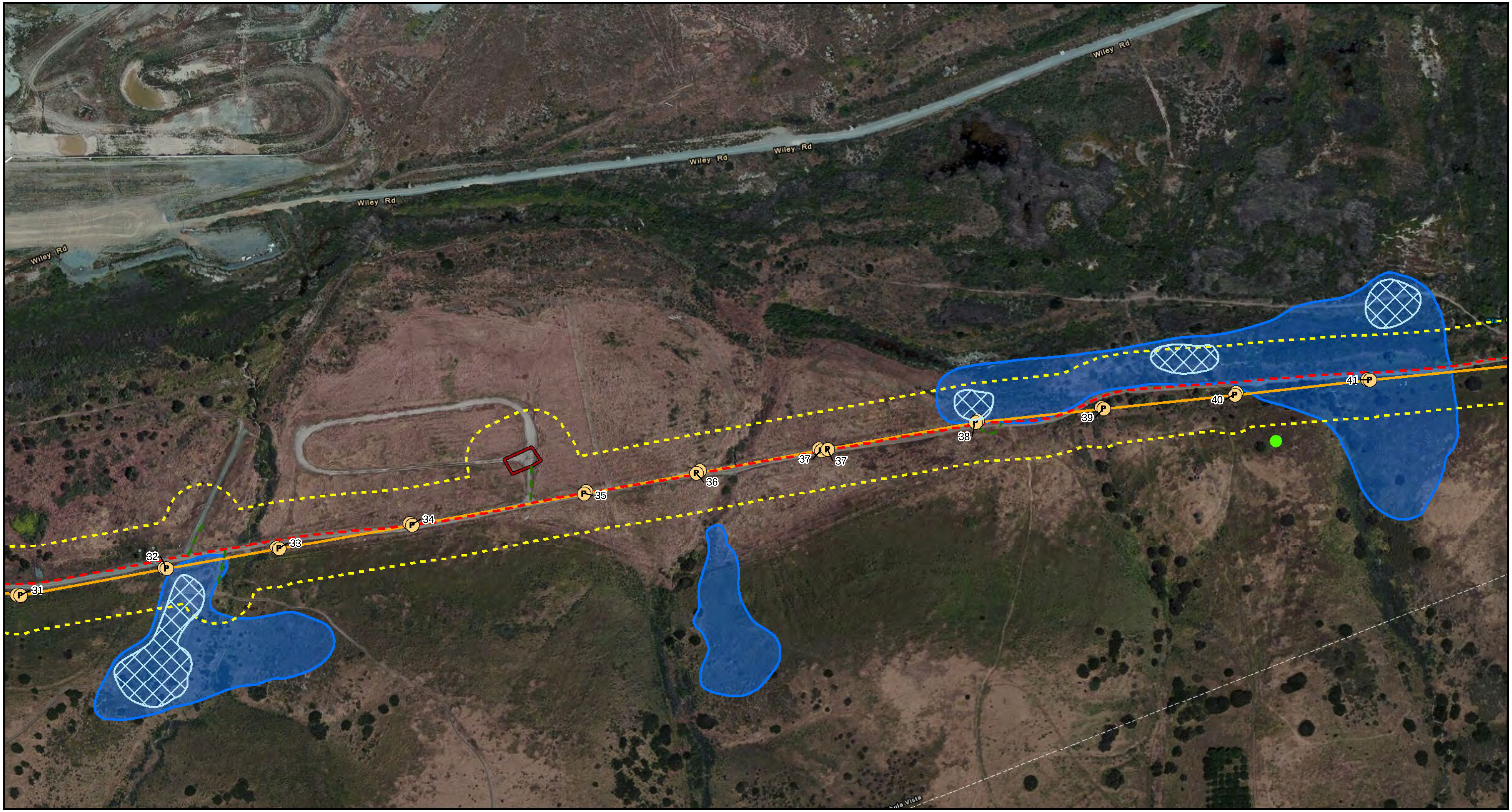
N

0 125 250 500
Feet

Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

━ Transmission Centerline

- - Survey Corridor (100ft Buffer)

Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road

Work Area Type Proposed

▭ Proposed Turnaround Area

▨ CAGN Occupied Habitat

🟦 CAGN Suitable Habitat

Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

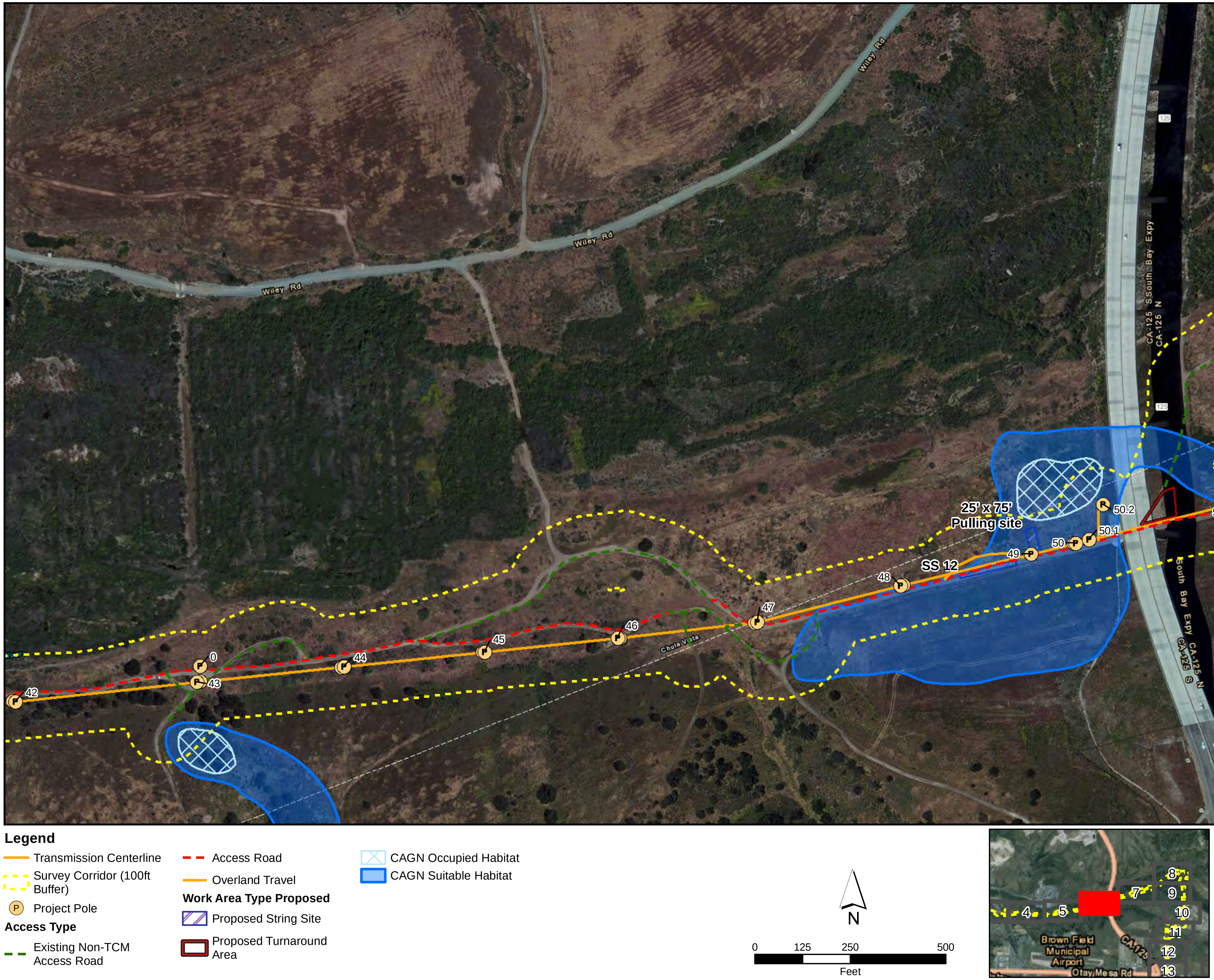
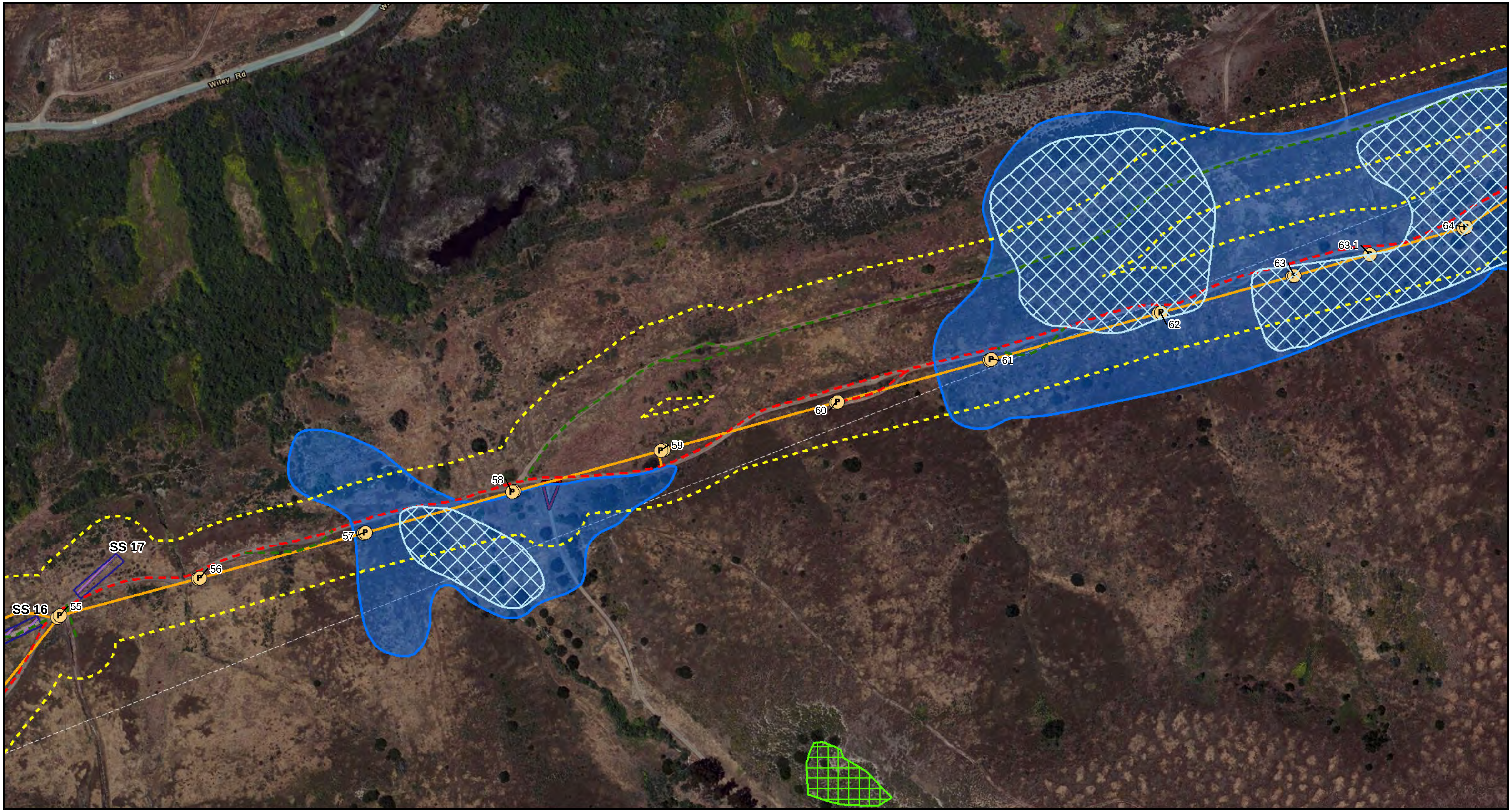


Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

- Transcenter Centerline
- Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ Proposed String Site
- ☐ Proposed Turnaround Area
- CAGN Occupied Habitat
- 🟦 CAGN Suitable Habitat
- CACW Occupied Habitat

N

0 125 250 500
Feet

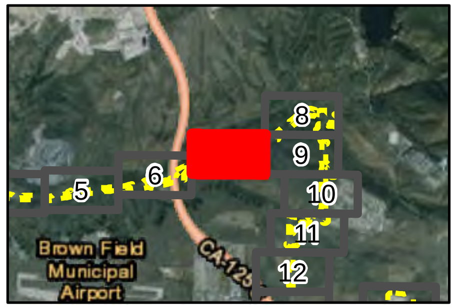
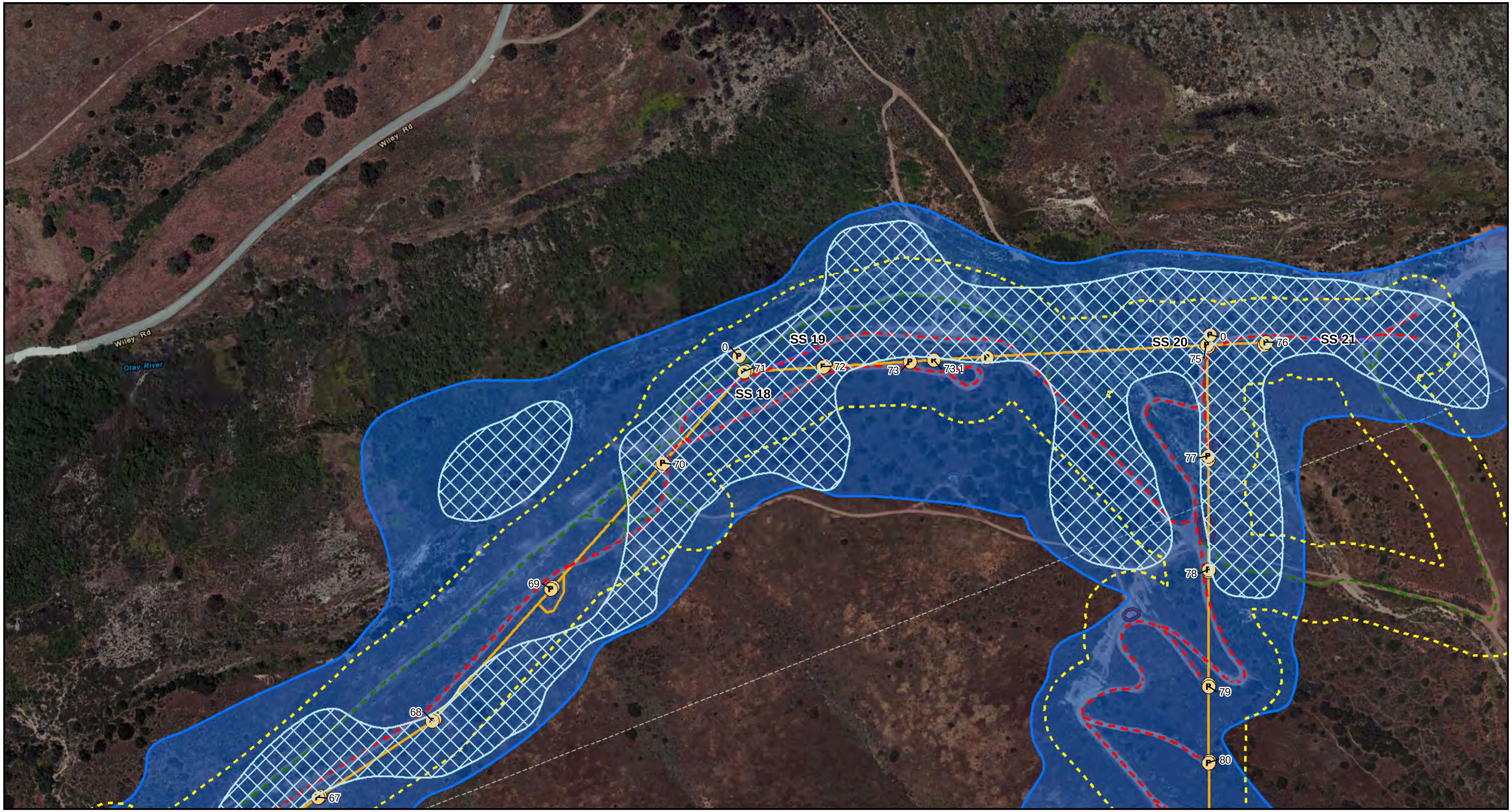


Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ Proposed String Site
- ☐ Proposed Turnaround Area
- CAGN Occupied Habitat
- CAGN Suitable Habitat

N

0 125 250 500

Feet

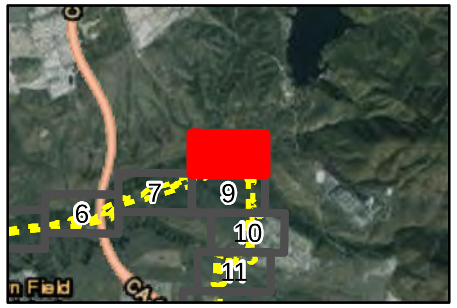
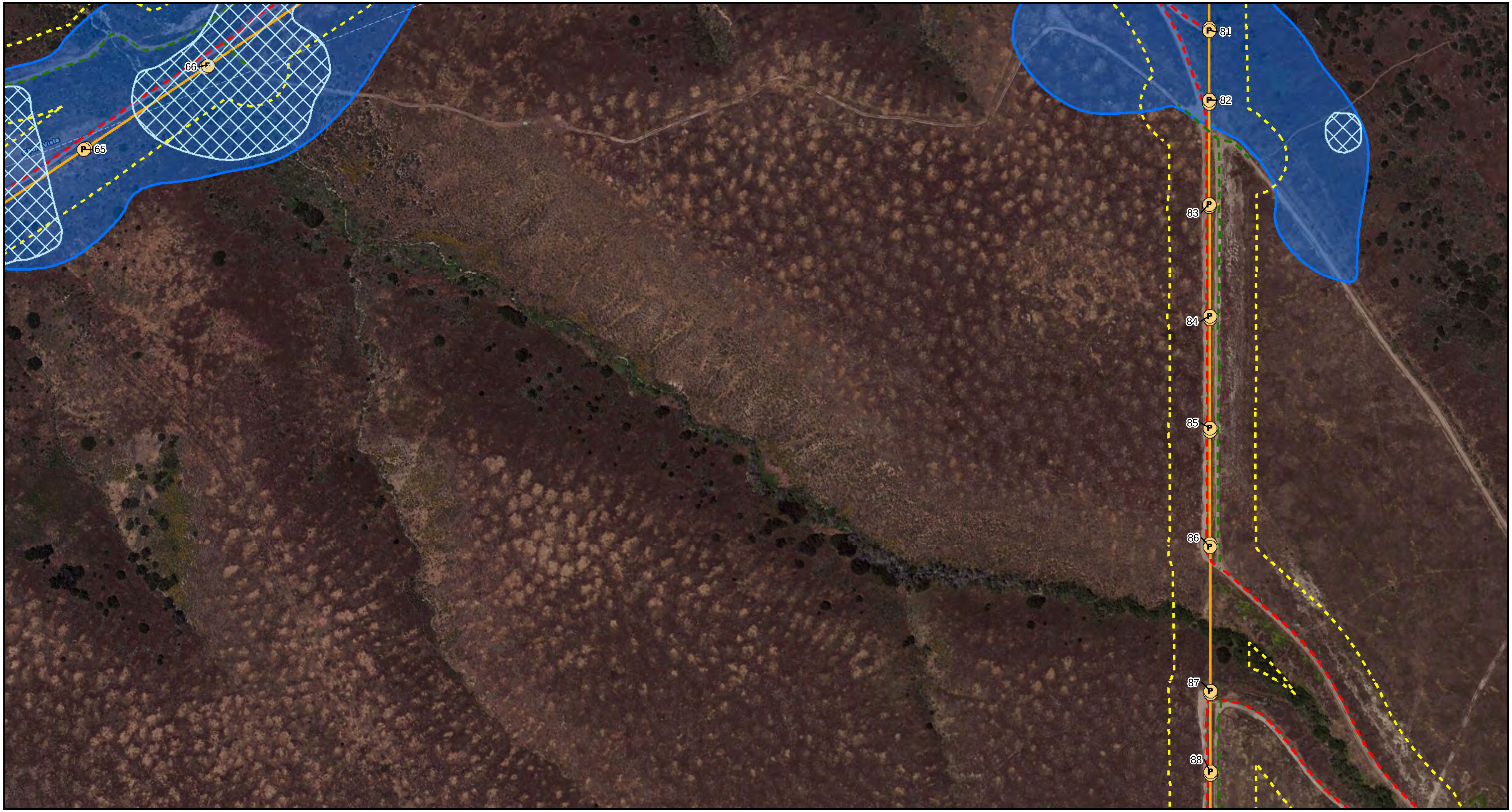


Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

- ▬ Transmission Centerline
- ▭ Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ▬ Overland Travel
- ▨ CAGN Occupied Habitat
- 🟦 CAGN Suitable Habitat

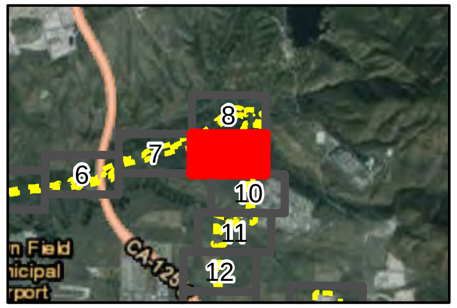
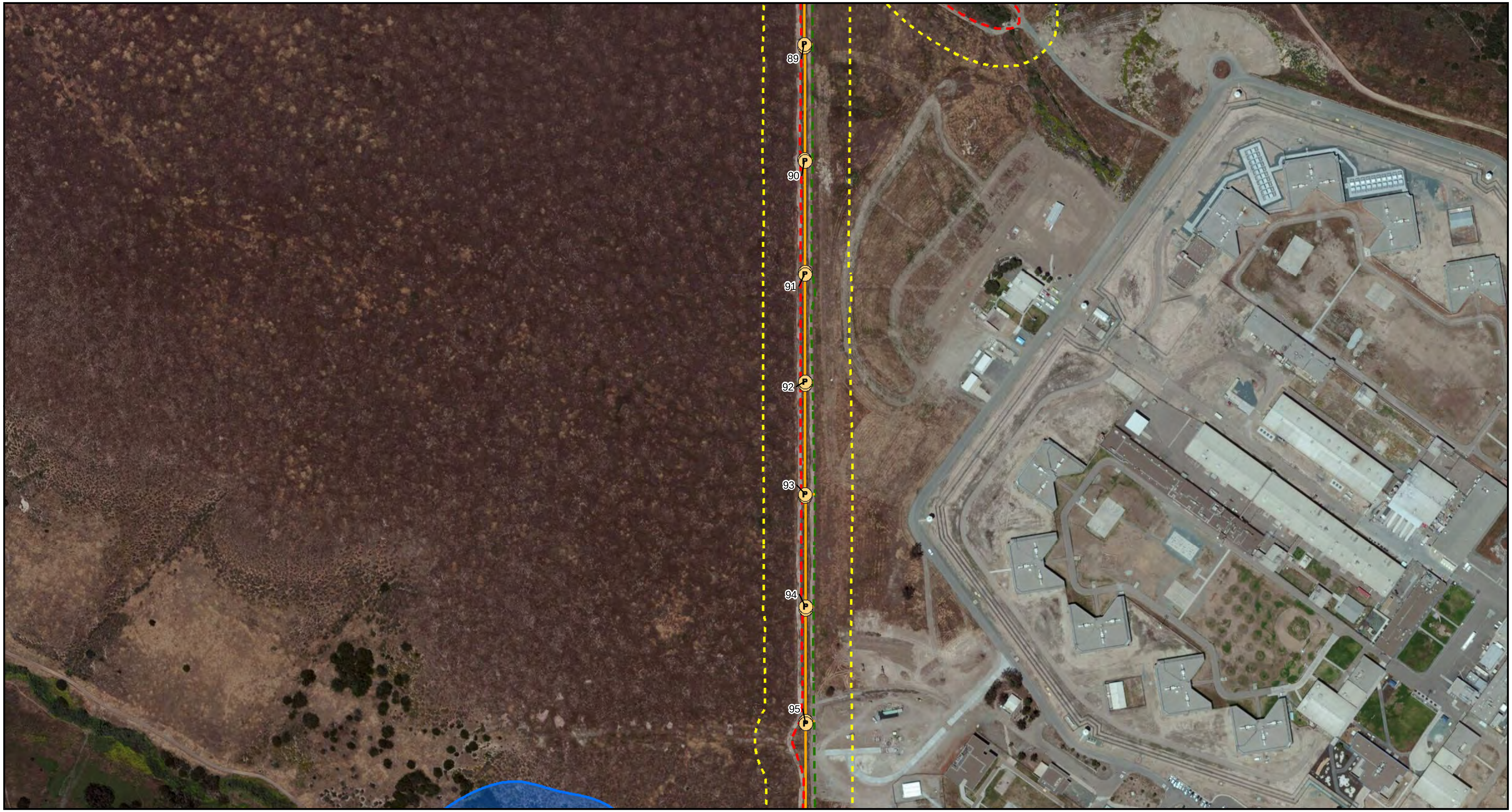


Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

CHAMBERS GROUP



Legend

Transmission Centerline

Survey Corridor (100ft Buffer)

Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road

Access Road

Overland Travel

CAGN Suitable Habitat

N

0 125 250 500

Feet

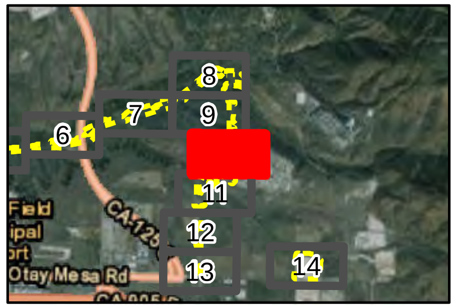
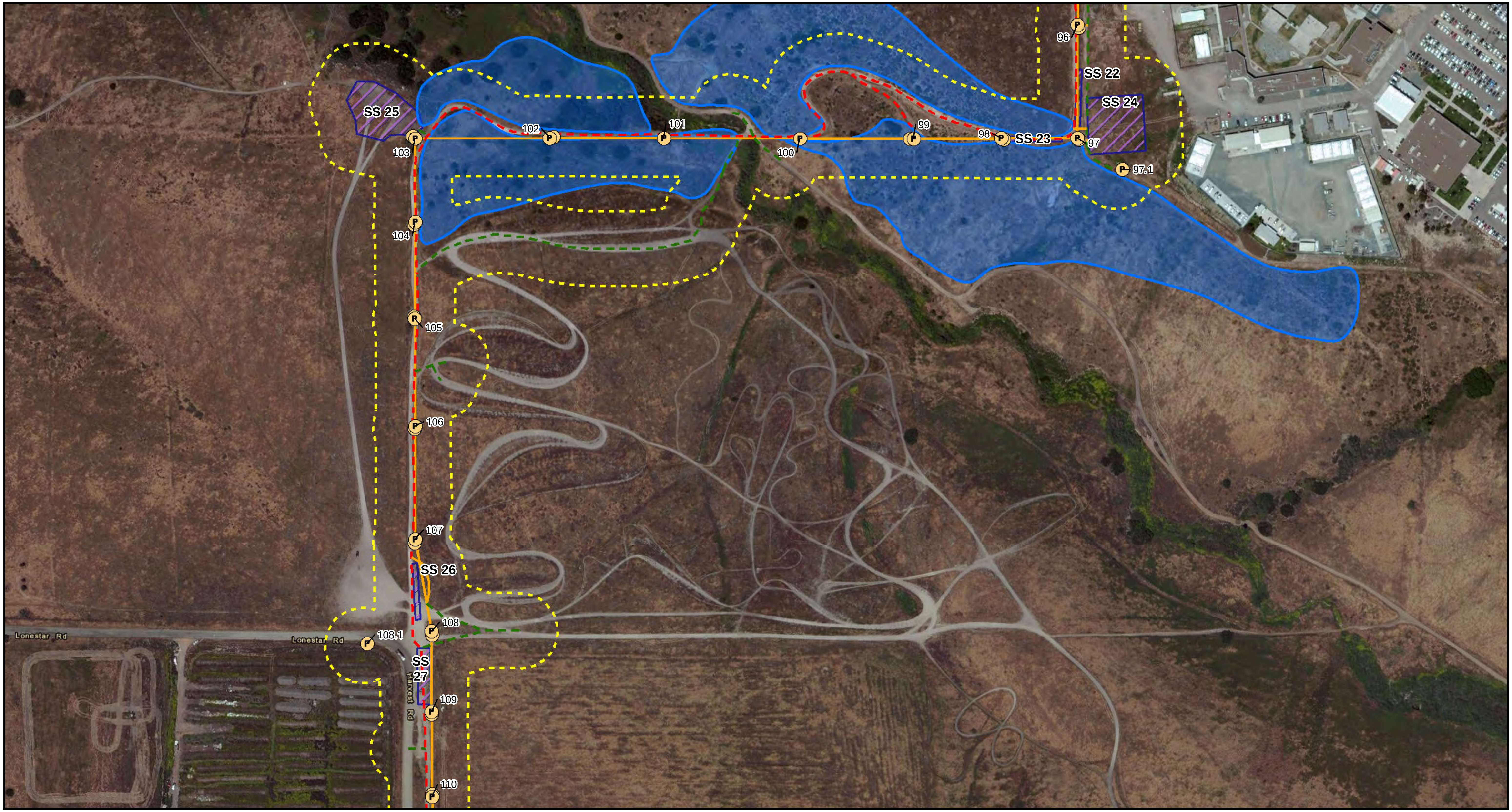


Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons



Legend

- Transmission Centerline
- Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- Existing Non-TCM Access Road
- Access Road
- Overland Travel

Work Area Type Proposed

- ▨ Proposed String Site
- 🟦 CAGN Suitable Habitat

N

0 125 250 500
Feet

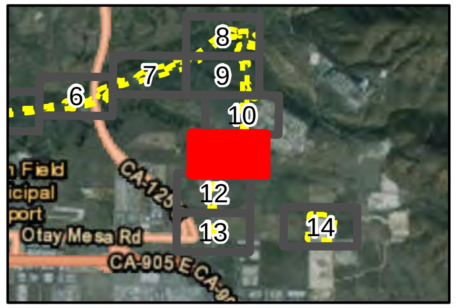


Figure 2
California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

CHAMBERS GROUP

Legend

- 🟧 Transmission Centerline
- ⬚ Survey Corridor (100ft Buffer)
- Ⓟ Project Pole

Access Type

- ╌ Existing Non-TCM Access Road
- ╌ Access Road

Work Area Type
Proposed

- ▨ Proposed String Site

N

0 125 250 500
Feet

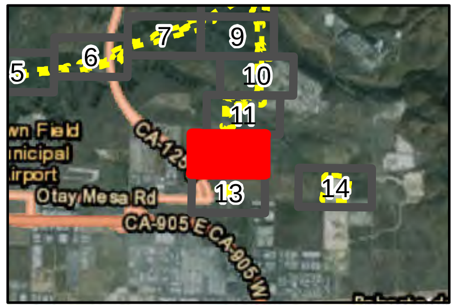


Figure 2
California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

Legend

🟨 Survey Corridor (100ft Buffer)

Access Type

🟩 Existing Non-TCM Access Road

🟥 Access Road

N

0 125 250 500

Feet

Figure 2

California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

Legend

- Survey Corridor (100ft Buffer)

Work Area Type Proposed

- ▨ Proposed Staging Yard

Figure 2
California Gnatcatcher & Coastal Cactus Wren Survey Results Map

Name: 20775 CAGN Fig2 CAGN Results.Mxd
Print Date: 8/3/2015, Author: msimmons

APPENDIX A – AVIAN SPECIES OBSERVED

APPENDIX A: Avian Species Observed

Scientific name	Common Name	Special Status
Class Aves	**BIRDS**	
Order Anseriformes	**Geese,Swans, and Ducks**	
Anasplatyrhynchos	mallard	
Order Galliformes	**Gallinaceous Birds**	
Family Odontophoridae	**New World Quail**	
Callipeplacalifornica	California quail	
Order Podicipediformes	**Grebes**	
Podilymbuspodiceps	pied-billed grebe	
Order Pelecaniformes	**Totipalmate Birds**	
Family Phalacrocoracidae	**Cormorants**	
Phalacrocoraxauritus	double-crested cormorant	WL
Order Ciconiiformes	**Herons, Ibises, Storks, American Vultures, and Allies**	
Family Ardeidae	**Herons, Bitterns, and Allies**	
Ardeaherodias	great blue heron	
Egrettathula	snowy egret	
Butoridesvirescens	green heron	
Family Threskiornithidae	**Ibises**	
Plegadischihi	white-faced ibis	WL
Family Cathartidae	**New World Vultures**	
Cathartes aura	turkey vulture	
Order Falconiformes	**Diurnal Birds of Prey**	
Family Accipitridae	**Hawks, Kites, Eagles, and Allies**	
Pandionhaliaetus	osprey	WL
Elanusleucurus	white-tailed kite	FP, WL
Circus cyaneus	northern harrier	SSC
Accipiter cooperii	Cooper's hawk	WL
Buteolineatus	red-shouldered hawk	
Buteojamaicensis	red-tailed hawk	
Family Falconidae	**Falcons**	
Falco sparverius	American kestrel	
Order Gruiformes	**Rails, Cranes, and Allies**	
Family Rallidae	**Rails, Gallinules, and Coots**	
Ralluslimicola	Virginia rail	
Gallinulagaleata	common gallinule	
Fulicaamericana	American coot	

Scientific name	Common Name	Special Status
Order Charadriiformes	**Shorebirds, Gulls, Auks, and Allies**	
Family Charadriidae	**Plover**	
Charadriusvociferus	killdeer	
Family Laridae	**Gulls, Terns, and Skimmers**	
Larusoccidentalis	western gull	
Order Columbiformes	**Pigeons and Doves**	
Family Columbidae	**Pigeons and Doves**	
Columba livia	rock pigeon	I
Zenaidamacroura	mourning dove	
Order Cuculiformes	**Cuckoos and Allies**	
Family Cuculidae	**Cuckoos and Roadrunners**	
Geococcyxcalifornianus	greater roadrunner	
Order Strigiformes	**Owls**	
Family Tytonidae	**Barn Owls**	
Tyto alba	barn owl	
Order Caprimulgiformes	**Goatsuckers and Allies**	
Family Caprimulgidae	**Goatsuckers**	
Chordeilesacutipennis	lesser nighthawk	
Order Apodiformes	**Swifts and Hummingbirds**	
Family Apodidae	**Swifts**	
Aeronautessaxatalis	white-throated swift	
Family Trochilidae	**Hummingbirds**	
Calypteanna	Anna's hummingbird	
Calypte costae	Costa's hummingbird	
Selasphorussasin	Allen's hummingbird	
Order Piciformes	**Woodpeckers and Allies**	
Family Picidae	**Woodpeckers**	
Melanerpesformicivorus	acorn woodpecker	
Picoidesnuttallii	Nuttall's woodpecker	
Picoidespubescens	downy woodpecker	
Colaptesauratus	northern flicker	
Order Passeriformes	**Perching Birds**	
Family Tyrannidae	**Tyrant Flycatchers**	
Contopuscooperi	olive-sided flycatcher	SSC
Empidonaxtrailliibrewsteri	little willow flycatcher	SE
Empidonaxtrailliiextimus	southwestern willow flycatcher	FE, SE
Empidonaxdifficilis	Pacific-slope flycatcher	
Sayornisnigricans	black phoebe	
Sayornissaya	Say's phoebe	

Scientific name	Common Name	Special Status
Myiarchuscinerascens	ash-throated flycatcher	
Tyrannusvociferans	Cassin's kingbird	
Tyrannusverticalis	western kingbird	
Family Vireonidae	**Vireos**	
Vireo belliipusillus	least Bell's vireo	SE, FE
Vireo huttoni	Hutton's vireo	
Family Corvidae	**Crows and Jays**	
Aphelocomacalifornica	western scrub-jay	
Corvusbrachyrhynchos	American crow	
Corvuscorax	common raven	
Family Alaudidae	**Larks**	
Eremophilaalpestrisactia	California horned lark	WL
Family Hirundinidae	**Swallows**	
Tachycineta bicolor	tree swallow	
Stelgidopteryxserripennis	northern rough-winged swallow	
Hirundopyrrhonota	cliff swallow	
Family Aegithalidae	**Bushtits**	
Psaltriparusminimus	bushtit	
Family Troglodytidae	**Wrens**	
Campylorhynchusbrunneicapilluscousei	coastal cactus wren	SSC*
Salpinctesobsoletus	rock wren	
Thryomanesbewickii	Bewick's wren	
Troglodytes aedon	house wren	
Cistothoruspalustrisclarkae	Clark’s marsh wren	SSC
Family Sylviidae	**Gnatcatchers**	
Polioptilacaerulea	blue-gray gnatcatcher	
Polioptilacalifornicacalifornica	coastal California gnatcatcher	FT, SSC
Family Turdidae	**Thrushes**	
Sialiamexicana	western bluebird	
Catharusguttatus	hermit thrush	
Family Timaliidae	**Babblers**	
Chamaeafasciata	wrentit	
Family Mimidae	**Mockingbirds and Thrashers**	
Mimuspolyglottos	northern mockingbird	
Toxostomaredivivum	California thrasher	
Family Sturnidae	**Starlings**	
Sturnus vulgaris	European starling	I

Scientific name	Common Name	Special Status
Family Ptilogonatidae	**Silky-flycatchers**	
Phainopeplanitens	phainopepla	
FamilyParulidae	**Wood-Warblers**	
Vermivoracelata	orange-crowned warbler	
Dendroicapetechiabrewsteri	yellow warbler	SSC*
Geothlypistrichas	common yellowthroat	
Wilsoniapusilla	Wilson's warbler	
Icteriavirens	yellow-breasted chat	SSC
Family Emberizidae	**Embrezids**	
Pipilomaculatus	spotted towhee	
Pipilocrissalis	California towhee	
Aimophilaruficepscanescens	southern California rufous-crowned sparrow	WL
Ammodramussavannarum	grasshopper sparrow	SSC
Zonotrichialeucophrys	white-crowned sparrow	
Family Cardinalidae	**Cardinals and Allies**	
Pheucticusmelanocephalus	black-headed grosbeak	
Passerinacaerulea	blue grosbeak	
Family Icteridae	**Blackbirds**	
Agelaiusphoeniceus	red-winged blackbird	
Sturnellaneglecta	western meadowlark	
Euphaguscyanocephalus	Brewer's blackbird	
Molothrusater	brown-headed cowbird	
Icterus cucullatus	hooded oriole	
Icterus bullockii	Bullock's oriole	
Family Fringillidae	**Fringilline and Cardueline Finches and Allies**	
Carpodacusmexicanus	house finch	
Carduelispsaltria	lesser goldfinch	
Carduelislawrencei	Lawrence's goldfinch	
Carduelistristis	American goldfinch	

I= Introduced Species	SE= State Endangered
X= Extirpated	ST= State Threatened
*=species with extremely limited distributions	SSC= CDFWSpecies of Special Concern
FE= Federally Endangered	WL= CDFWList of Taxa to Watch
FT= Federally Threatened	FP= CDFWFully Protected

APPENDIX H – RIPARIAN BIRD REPORT

2014
TIE-LINE 649 WOOD TO STEEL POLE REPLACEMENT PROJECT RIPARIAN BIRD REPORT

Prepared for:

UNITED STATES FISH AND WILDLIFE SERVICE
Attn: Stacey Love
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Prepared by:

CHAMBERS GROUP, INC.
9909 Huennekens Street, Suite 206
San Diego, California 92121
858-541-2800

Cooper Biological Services
4971 Mount Ashmun Dr.
San Diego, California 92111

November 2014

TL649
2014 RIPAIRAN BIRD SURVEY
REPORT

Biologist Signature Page

September 2014

The undersigned certify this report to be a complete and accurate account of the findings and conclusions of focused surveys for southwestern willow flycatcher, least Bell's vireo, and western yellow-billed cuckoo conducted during the breeding bird season of year 2014, within suitable habitat on the San Diego Gas & Electric TL649 Project, San Diego County, California.

______________________ 9September 2014

Travis Cooper Date

FWS Permit # TE-170389-4

______________________ 19 September 2014

Phillip Howard Date

FWS Permit # TE-15264B-0

______________________ 19 September 2014

Ian Maunsell Date

FWS Permit # TE-42833A-1

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

-

SECTION 1.0 – INTRODUCTION

The purpose of this report is to document the results of the protocol southwestern willow flycatcher (*Empidonax traillii extimus;* SWFL), least Bell's vireo (*Vireo bellii pusillus*; LBVI),and western yellow-billed cuckoo (*Coccyzus americanus occidentolis*; WYBC) surveys conducted by Chambers Group, Inc. (Chambers Group) during the 2014 bird breeding season for San Diego Gas & Electric (SDG&E).

1.1 PROJECT DESCRIPTION

SDG&E proposes the Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Proposed Project or Project) in an effort to fire-harden existing facilities in SDG&E's service territory. SDG&E proposes to replace wood poles with steel poles along approximately seven miles of the existing 69-kilovolt (kV) single-circuit power line. This segment of the Proposed Project is located in the cities of San Diego and Chula Vista, California (State), as well as unincorporated San Diego County (County). The Proposed Project extends east from Black Coral Way and Sea Lavender Way in the City of San Diego for approximately five miles; then travels south for approximately two miles to just north of Otay Mesa Road in unincorporated San Diego County. Over this distance, the Project traverses private and public lands, including lands owned by the County of San Diego, the City of San Diego, the City of Chula Vista, the State of California, and SDG&E. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

Specifically, SDG&E proposes to conduct the following activities as part of the Proposed Project:

- Remove approximately 132 existing wood power line and interset distribution line poles and replace them with approximately 117 galvanized steel structures. Of the 117 replacement structures, approximately 21 poles will require a pier foundation, approximately seven will require a micropile foundation, and the remaining 89 will be directly buried;
- Conduct overhead work on approximately two existing power line poles and approximately one existing distribution line pole;
- Convert approximately 430 feet of underground power line cable under State Route (SR) 125 to an overhead configuration;
- Transfer existing 69 kV power line conductors to the new steel poles;
- Transfer approximately 1.5 miles of existing distribution conductors and replace approximately 3.9 miles of distribution conductors with new aluminum conductor steel-reinforced distribution conductors.

SDG&E will utilize approximately 28 stringing sites, two temporary guard structures, and two staging areas during construction of the Proposed Project. The Proposed Project is consistent with SDG&E's efforts to improve reliability in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line according to the existing vegetation and fuel conditions, the history of high-speed winds in the area, and the age and condition of the existing facilities as part of an overall strategy to strengthen power lines for improved system reliability. SDG&E periodically reviews and updates the prioritization of these poles for replacement based on changes in field conditions, such as increases in the density of vegetation (fire fuel)

surrounding existing poles. The Proposed Project incorporates updated design standards to reduce fire risks and will implement a Project-specific fire plan to minimize fire risks during construction.

1.2 SOUTHWESTERN WILLOW FLYCATCHER

The SWFL is a small, olive-colored migratory songbird, which is federally and statelisted as endangered by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). One of four subspecies of willow flycatcher(WIFL), SWFL is distinguished by breeding distribution, song, call, and plumage. This species typically breeds in patchy to dense, well-developed riparian woodlands along streams, rivers, lakes, or other wetlands less than 8,000 feet in elevation that provide surface water and/or saturated soil in mid-summer months (Sedgwick 2000; Sogge et al. 2010; USFWS 2002). Typical breeding habitat for SWFL is composed of native riparian species such as willows (*Salix* spp.) and mulefat (*Baccharis salicifolia*) in patches of at least 2acres or greater, with linear-shaped habitats at least 10 meters (33 feet) wide (Sogge et al. 2010); however, the species has also been observed successfully breeding in riparian communities dominated by extensive patches of non-native species such as tamarisk (*Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*) (USFWS 2002).

The SWFL is a neotropic migrant that is endemic to the Americas and is a summer breeding resident in the southwestern United States, specifically within Arizona, New Mexico, southern California, southern portions of Nevada and Utah, southwestern Colorado, far western Texas, and extreme northwestern Mexico (USFWS 2002). It is the only subspeciesof willow flycatcher that is known to breed in southern California, ranging from Kern Countyto San Diego. This species arrives on breeding territories in early to mid-May and returnssouthward to wintering areas in southern Mexico, Central America, and northern South America in August and September (Unitt 1987; Sedgwick 2000). Two additional subspecies of willow flycatcher (e.g., *E. t. brewsteri* and *E. t. adastus)* migrate through southern California in the spring and fall to and from their breeding grounds in northern California (Sogge et. al. 2003).

Once a common species in southern California, this population collapsed in the early twentieth century due to the combined effects of habitat loss and nest parasitism by brown-headed cowbird (*Molothrus ater*) (Garret and Dunn 1981; Unitt 1987; Sedgwick 2000;USFWS 2002;RHJV 2004). In southern California it currently breeds locally at 75 known sites within 18 drainages from San Diego to Santa Barbara and Kern counties and the Owens Valley,most notably within the San Luis Rey, Santa Ana, Santa Ynez, Owens, and Kern rivers, which support approximately 70 percent of known territories (Sogge et. al. 2003). Currently, of theestimated 200 breeding pairs in southern California, nearly half of them occur in San Diego County, primarily along the upper San Luis Rey River (Unitt 2004).

1.3 LEAST BELL'S VIREO

The LBVI is federally and statelisted as endangered. One of four subspecies of Bell's vireo, the LBVI is a small, indistinctly marked songbird characterized by its drab, olive-gray plumage and husky, musical song. This species is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that exists along streams and rivers (Kus 2002). Habitat characteristics that appear to be essential for LBVI occupation include dense cover from 1to 2 meters (3 to 6 feet) in height for nesting and foraging and a stratified canopy providing both foraging habitat and song perches for territorial advertisement (Unitt 2004; USFWS 1998).

Endemic to California and Baja California, this highly migratory species arrives in California in mid-March and departs by late September when itflies southward to wintering grounds near the tip of Baja California. This species formerly bred in lowland riparian habitat ranging from coastal southern

California through the Sacramento and San Joaquin valleys as far north as Red Bluff and other scattered locations east of the Sierra Nevada (Grinnell and Miller 1944; USFWS 1998).

By the time the species was listed by CDFW in 1984, it had been extirpated from much of its former range and was restricted to eight counties south from Santa Barbara, with just 300 breeding pairs located statewide (Unitt 2004). Declines were caused by widespread clearing of riparian habitat combined with brood parasitism by brown-headed cowbirds, whose increase in California was as dramatic as the vireo's decline. Currently, with the restriction of habitat destruction, extensive cowbird trapping, and federal and state protection underthe Endangered Species Act, populations have recovered in some areas of southern California and are expanding into former ranges (Howell and Dettling 2009; USFWS 2006). The northernmost sightings currently are from Yolo County near Sacramento (eBird 2014). San Diego County holds the largest breeding population of least Bell's vireo in the state; here it is a fairly common breeder in appropriate habitats, primarily in the coastal lowlands (Unitt 2004).

1.4 WESTERN YELLOW-BILLED CUCKOO

The WYBC is a state listed endangered species anda federally listed threatened species. The final listing ruleby USFWS for this species occurred on October 3rd andthe WYBC officiallybecamea federally listed threatened species effective November 3, 2014.

One of two recognized subspecies,it is characterized as a distinct population segment west of the continental divide (USFWS 2013). This slender, jay-sized bird has crisp white plumage below contrasting with dark brown above; a long, boldly white spotted tail; and a yellow down-curved bill. The WYBC is a secretive species by nature, but hasa distinctive, drawn-out knocking call, which isimmediately recognizable andis far more often heard than this reclusivespecies is seen. The WYBC inhabits mature riparian woodlands where it feeds primarily on large arthropods including cicadas, katydids, grasshoppers, and caterpillars (Halterman et. al. 2011). This species has fairly specific breeding habitat requirements and prefers mature cottonwood-willow riparian forest with clearings and low, dense, scrubby vegetation; often associated with watercourses (Hughes 1999; Halterman et. al. 2011).

The WYBC is a migratory species that breeds in central and eastern North America, with scattered isolated populations in the west, including California. The breeding cycle of this species is extremely rapid, requiring only 17days from egg laying to fledging of young (Hughes 1999). Breeding birds typically arrive in late May and depart by early September for wintering grounds located throughout much of South America (Gaines and Laymon 1984; Hughes 1999).

Western populations formerly bred throughout riparian systems of western North America from Mexico to southern British Columbia but have suffered catastrophic range reductions in the twentiethcentury due to riparian habitat loss through clearing for agriculture, flood control measures, and urbanization (Laymon 1998;Hughes 1999;Unitt 2004). In California, though once a common breeder throughout much of lowland California, they are currently limited primarily to the Sacramento River from Red Bluff to Colusa and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve in Kern County (Laymon 1998). On a statewide basis, the WYBC is now the bird closest to extirpation from California (Unit 2004). In southern California, solitary pairs may breed or have bred occasionally at the Prado Flood Control Basin, Riverside County; the Santa Clara River near Santa Clarita; the Mojave River near Victorville; and along the Colorado River from Needles to Yuma, Arizona (Laymon 1998). In San Diego, the last report of nesting was from an egg set collected in Escondido and Bonita in 1932 (Willet

1933, Unitt 2004). In the summer of 2012 an apparently territorial individual was detected over an eight-day period in riparian habitat along the Otay River below Otay Lakes Dam (Clark 2014); however, this solitary individual was not observed with a mate, and no nesting attempt was documented.

SECTION 2.0 – METHODOLOGY

2.1 SURVEY AREA

The survey area included suitable habitat within the Proposed Project right-of-way (ROW) and within 150 feet of the ROW centerline (Figure 2). For facilities (i.e., stringing sites, staging yards, etc.) that exist outside this buffer, a 50-foot-wide buffer around the facility was surveyed. For access roads outside the buffer, the access road plus a 20-foot-wide buffer on either side of the edges of the access road was surveyed. Because the majority of the riparian habitat suitable for breeding by the target species lay outside the survey buffer, habitat adjacent to the survey area was opportunistically surveyed in order to increase the chance of detecting target species near the Proposed Project ROWthat may disperse within the survey area. Information was recorded on the survey methods performed, including the surveyor per day, start and stop times of survey, and weather conditions (**Error! Reference source not found.**).

2.2 HABITAT ASSESSMENT

Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CNDDB 2014) were reviewed for the quadrangles containing and surrounding the Survey Area (i.e., Imperial Beach and Otay Mesa USGS 7.5-minute quadrangles); a 5-mile radius surrounding the Proposed Project ROW was reviewed. The 2014 riparian bird surveys were assigned to locations based CNDDB records, aerial imagery and a habitat suitability assessment made during the initial round of focused LBVI surveys. Subsequent surveys were conducted in all areas that contained riparian habitat suitable for nesting of the target species.

2.3 FOCUSED SURVEYS

2.3.1 Southwestern Willow Flycatcher

USFWS-permitted biologist Travis Cooper conducted focused SWFL surveys in accordance with USFWS approved guidelines (Sogge et. al. 2010) in order to determine the presence or absence of SWFL within suitable habitat along the Proposed Project route.

2.3.2 Least Bell's Vireo

Qualified avian biologists Philip Howard, Ian Maunsell, and Travis Cooper conducted focused LBVI surveys in accordance with USFWS approved guidelines (USFWS 2001) to determine the presence/absence of LBVI within suitable habitat along the Proposed Project route.

2.3.3 Western Yellow-Billed Cuckoo

CDFW-permitted biologist Travis Cooper conducted focused WYBC surveys in accordance with CDFW approved guidelines (Halterman et. al. 2011) to determine the presence or absence of WYBC within suitable habitat along the Proposed Project route.

SECTION 3.0 – RESULTS

3.1 SOUTHWESTERN WILLOW FLYCATCHER

Breeding habitat within the survey area for SWFL was limited due to the lack of habitat structure and absence of standing water. In general, potential breeding habitat for this species runs parallel and to the north of the Proposed Project ROW along the Otay River and was primarily outside the designated survey area. Six willow flycatchers (*Empidonax trallii*) were observed between May 21 and June 20 outside the survey area but within suitable breeding habitat. Although these observations fell within the migratory period for this species, the birds lacked territorial behavior and were not observed on subsequent visits. These factors indicate the observations were likely the northwestern subspecies (*E. t. brewsteri*),a state listed endangered species that does not breed locally.

In addition, one confirmed SWFL, based on call and leg bands, was observed on several occasions between June 5 and June 20. This bird appeared to be establishing a territory (SWFL 1, presented in Table 2: Territory Summary) but did not appear to successfully attract a mate. The bird remained until the final cusp of the migratory period (Unitt 1987) but was not detected on subsequent survey visits. The observation of SWFL in this location was unique, with the nearest summer record of SWFL being from east Otay Lake in 1975 (Unitt 1987; Unitt pers. comm.). Based on the 2014 protocol SWFL surveys, it has been determined that no active breeding SWFL territories occur within or adjacent to the Proposed Project area. A summary of observation dates for this species is presented in Table 2 below.

CNDDB lists no records of occurrence of this species within 5 miles of the ROW.

3.2 LEAST BELL'S VIREO

The structure of the ample riparian habitat adjacent to the Proposed Project ROW was well suited for LBVI; however, this habitat occurs mostly outside the survey area. Nine LBVI territories (LBVI 2, 5, 8, 9, 10, 13, 14, 15, and 17) were documented within the survey area. These territories included habitat between 0 and 300 feet from the ROW centerline. A total of 17 LBVI territories were detected during surveys, with approximately half confirmed to be occupied by paired individuals. Evidence of successful breeding was documented in at least two territories. A summary of observations for LBVI territories documented during the 2014 survey effort is presented in Table 2 below.

CNDDB lists 14 records of occurrence of this species within 5 miles of the TL 649 ROW. Three of these observations were within 1,000 feet of the ROW.

3.3 WESTERN YELLOW-BILLED CUCKOO

Breeding habitat for WYBC within the survey area was extremely marginal and did not offer the species compositionor structure preferred by WYBC. Some higher quality stands of willow-cottonwood forest located near the eastern end of the Otay River below Otay Dam were surveyed as well; however,WYBC were not detected, and these areas are well beyond the survey buffer for the Proposed Project. Based on the 2014 protocol WYBC surveys, it has been determined that breeding WYBCdo not occur, and are not likely to occur,within or adjacent to the Proposed Project area.

CNDDB lists two records of occurrence of this species within 5 miles of the ROW, with the closest being 2,461 feet from the ROW.

SECTION 4.0 – DISCUSSION AND RECOMMENDATIONS

Given the results of the 2014 protocol SWFL surveys, it is expected that no impacts will occur to this species as a result of Proposed Project activities. Due to the absence of previous SWFL breeding records within the Otay River Valley (Unitt 2004; P. Unitt pers. comm.), it is not unusual that no breeding activity was observed during the survey period. The solitary male SWFL observation was unexpected, and the bird may return to attempt breeding in future breeding seasons; however, due to distance of this potential territory and lack of similar habitat on the Proposed Project ROW, it is not expected that a breeding pair will be negatively impacted by Proposed Project activities.

Male LBVI and juveniles from territories identified in the 2014 surveys, as well as dispersing LBVI from adjacent habitat, will likely form breeding territories in future nesting seasons in similar locations along the Proposed Project ROW. Territories identified within the survey area should be protected to the best extent possible during construction activities if occupied in subsequent years.

Virtually no suitable breeding habitat for WYBC was documented within the survey area. Some higher quality patches of habitat exist within the Otay River drainage; however, these areas are greater than 500 feet from the Proposed Project ROW. It is expected that no impacts will occur to WYBC as a result of Proposed Project activities. Surveys of low-quality habitat were performed during 2014 surveys, and no WYBC were observed. It is not expected that breeding WYBC will occur within the Proposed Project area, and no impacts to this species are anticipated.

Riparian habitat areas along the Proposed Project ROW are currently suitable for breeding LBVI and unsuitable for breeding SWFL and WYBC due to inappropriate vegetation structure. Several factors such as fire, flooding and anthropomorphic change can alter the suitability of these habitats in future years. These areas should be maintained to the greatest extent possible during construction activities to avoid indirect impacts to LBVI, SWFL, and WYBU as in future years these patches could grow large enough to support nesting individuals if left untouched.

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Table 1: Survey Conditions Summary

Date	Personnel	Time	Temp. (°F)	Wind (mph)	Sky (% Cloud)
Least Bell's Vireo Round 1					
4/23/2014	PH	0700-1100	68-70	0-5	20-30
4/25/2014	PH, LT	0700-1100	68-72	0-5	25-50
Least Bell's Vireo Round 2					
5/8/2014	SH, LT	0545-1035	62-70	0-2	25-50
5/9/2014	PH	0600-1000	60-70	0-3	20-80
Least Bell's Vireo Round 3					
5/19/2014	PH, TC	0530-1110	62-81	0-5	0-90
5/20/2014	TC	0445-1130	58-72	0-6	20-40
5/21/2014	PH, TC	0530-1045	55-72	0-5	20-40
Least Bell's Vireo Round 4					
6/4/2014	PH, TC	0540-1030	64-67	0-5	20-90
6/5/2014	PH, TC	0520-1030	62-66	0-6	20-90
6/6/2014	PH, TC	0530-1030	67-75	0-4	15-100
6/7/2014	TC	0530-1015	62-68	0-5	20-100
Least Bell's Vireo Round 5					
6/19/2014	TC	0530-1035	58-72	0-6	0-70
6/20/2014	PH, TC	0530-1030	57-72	0-5	20-80
6/22/2014	TC	0530-1005	65-74	0-5	0-100
Least Bell's Vireo Round 6					
7/1/2014	SV, TC	0537-1028	64-77	0-1	0-100
7/2/2014	HF, TC	0530-1025	64-78	0-3	0-100
7/3/2014	SV, TC	0537-1003	64-78	0-3	0-100
Least Bell's Vireo Round 7					
7/15/2014	IM, TC	0528-1030	70-72	0-4	100
7/16/2014	JK, TC	0548-1020	68-73	0-5	20-100
7/17/2014	PH, TC	0530-0940	64-74	0-6	20-100
Least Bell's Vireo Round 8					
7/29/2014	CC, TC	0600-1020	66-82	0-5	0-10
7/30/2014	CC, TC	0600-1005	67-78	0-5	20-100
7/31/2014	PH, TC	0600-0920	67-80	0-6	10-100

Table 1: Survey Conditions Summary

Date	Personnel	Time	Temp. (°F)	Wind (mph)	Sky (% Cloud)
Southwestern Willow Flycatcher Round 1					
5/19/2014	PH, TC	0530-1110	62-81	0-5	0-90
5/20/2014	TC	0445-1130	58-72	0-6	20-40
5/21/2014	PH, TC	0530-1045	55-72	0-5	20-40
Southwestern Willow Flycatcher Round 2					
6/4/2014	PH, TC	0540-1030	64-67	0-5	20-90
6/5/2014	PH, TC	0520-1030	62-66	0-6	20-90
6/6/2014	PH, TC	0530-1030	67-75	0-4	15-100
6/7/2014	TC	0530-1015	62-68	0-5	20-100
Southwestern Willow Flycatcher Round 3					
6/19/2014	TC	0530-1035	58-72	0-6	0-70
6/20/2014	PH, TC	0530-1030	57-72	0-5	20-80
6/22/2014	TC	0530-1005	65-74	0-5	0-100
Southwestern Willow Flycatcher Round 4					
7/1/2014	SV, TC	0537-1028	64-77	0-1	0-100
7/2/2014	HF, TC	0530-1025	64-78	0-3	0-100
7/3/2014	SV, TC	0537-1003	64-78	0-3	0-100
Southwestern Willow Flycatcher Round 5					
7/15/2014	IM, TC	0528-1030	70-72	0-4	100
7/16/2014	JK, TC	0548-1020	68-73	0-5	20-100
7/17/2014	PH, TC	0530-0940	64-74	0-6	20-100
Western Yellow-billed Cuckoo Round 1					
6/4/2014	PH, TC	0540-1030	64-67	0-5	20-90
6/5/2014	PH, TC	0520-1030	62-66	0-6	20-90
6/6/2014	PH, TC	0530-1030	67-75	0-4	15-100
6/7/2014	TC	0530-1015	62-68	0-5	20-100
Western Yellow-billed Cuckoo Round 2					
7/1/2014	SV, TC	0537-1028	64-77	0-1	0-100
7/2/2014	HF, TC	0530-1025	64-78	0-3	0-100
7/3/2014	SV, TC	0537-1003	64-78	0-3	0-100

Table 1: Survey Conditions Summary

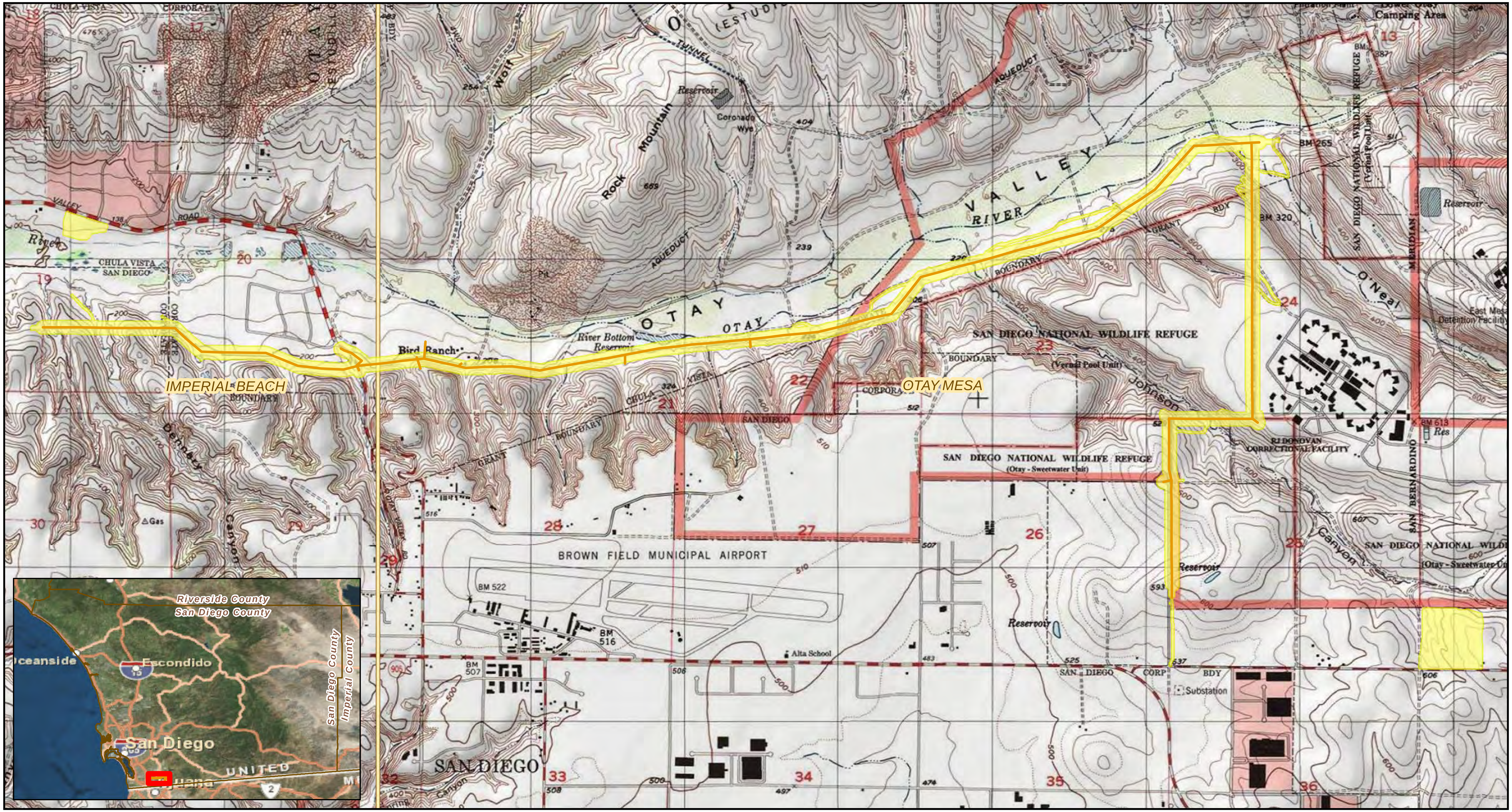
Date	Personnel	Time	Temp. (°F)	Wind (mph)	Sky (% Cloud)
Western Yellow-billed Cuckoo Round 3					
7/15/2014	IM, TC	0528-1030	70-72	0-4	100
7/16/2014	JK, TC	0548-1020	68-73	0-5	20-100
7/17/2014	PH, TC	0530-0940	64-74	0-6	20-100
Western Yellow-billed Cuckoo Round 4					
8/13/2014	PH, TC	0600-0930	68-74	0-5	20-100
8/14/2014	PH, TC	0630-0900	64-89	0-6	0-20
8/15/2014	PH, TC	0630-0900	71-82	0-4	0-10

Abbreviations:

CC=Christina Congedo
JK=JahanKhalili
SH=Sarah Howard
HF=Heather Fanklin
LT= Liz Tymkiw
SV=Silvia Villalobos
IM=Ian Maunsell
PH=Phillip Howard
TC=Travis Cooper

Table 2: Territory Summary

Territory #	Occupants	Observation Dates	Notes
LBVI 1	Pair	4/19, 4/23, 5/19	
LBVI 2	Pair	5/8, 5/19, 6/4, 6/19	
LBVI 3	Pair	4/23, 5/21, 6/4, 7/1	
LBVI 4	Male	5/8, 5/19, 6/19, 7/29	
LBVI 5	Pair	4/23, 5/8, 5/19, 6/4, 6/19, 7/15, 7/29	Banded male (—:W,Om), pair and fledglings observed.)
LBVI 6	Male	4/23, 6/4, 6/19, 7/1, 7/29	
LBVI 7	Pair	4/23, 6/4, 6/19, 7/15	
LBVI 8	Male	4/23, 5/20	
LBVI 9	Male	4/23, 5/19, 6/4, 7/29	
LBVI 10	Male	5/8, 5/19, 6/19, 7/1, 7/29	
LBVI 11	Pair	5/2, 6/5, 7/15, 7/29	
LBVI 12	Male	5/8, 6/5, 6/19, 6/20, 7/15, 7/29	
LBVI 13	Pair	4/25, 6/5, 6/20, 7/2, 7/16, 7/30	
LBVI 14	Pair	4/25, 6/5, 6/20, 7/2, 7/16, 7/30	Pair and fledglings observed
LBVI 15	Male	5/20, 6/5, 7/30	
LBVI 16	Male	5/9, 6/5, 6/20, 7/3, 7/16	
LBVI 17	Male	6/1, 6/20	
SWFL 1	Male	6/5, 6/6, 6/19, 6/20	Banded male (P/W:S)



Legend

- Transmission Centerline
- 🟨 Survey Corridor
- ▭ USGS 7.5-min Quadrangle

N

0 0.25 0.5 1
Miles

Figure 1
Riparian Bird Survey Overview Map

Scale = 1:24,000

Name: 20775 RIPA Fig1 Riparian Birds.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

🟦 LBVI/SWFL Suitable Habitat

Work Area Type

▨ Proposed Staging Yard

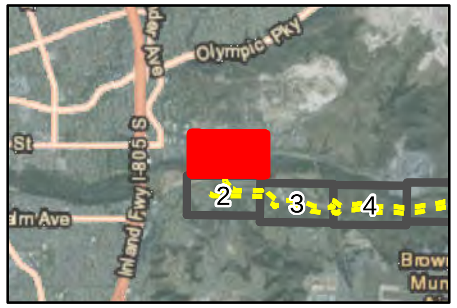


Figure 2
Riparian Bird Survey
Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Transmission Centerline

LBVI/SWFL Suitable Habitat

Species Observations

LBVI Observation

WIFL Observation

Ⓟ Project Pole

Access Type

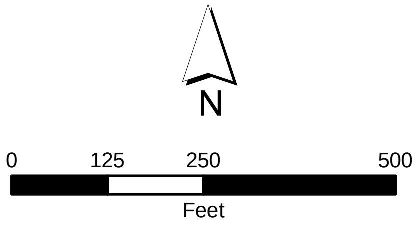
Existing Non-TCM Access Road

Access Road

Work Area Type

Proposed String Site

Proposed Turnaround



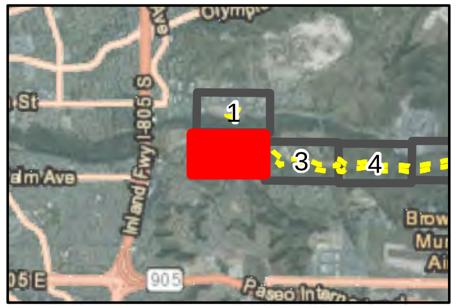


Figure 2

Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Transcription Centerline
- Ⓟ Project Pole
- TT Guard Structure

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type

- ▨ Proposed String Site
- ☐ Proposed Turnaround

Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Transmission Centerline
- LBVI/SWFL Suitable Habitat

Species Observations

- LBVI Observation
- Ⓟ Project Pole

- Guard Structure

Access Type

- Existing Non-TCM Access Road
- Access Road

Work Area Type

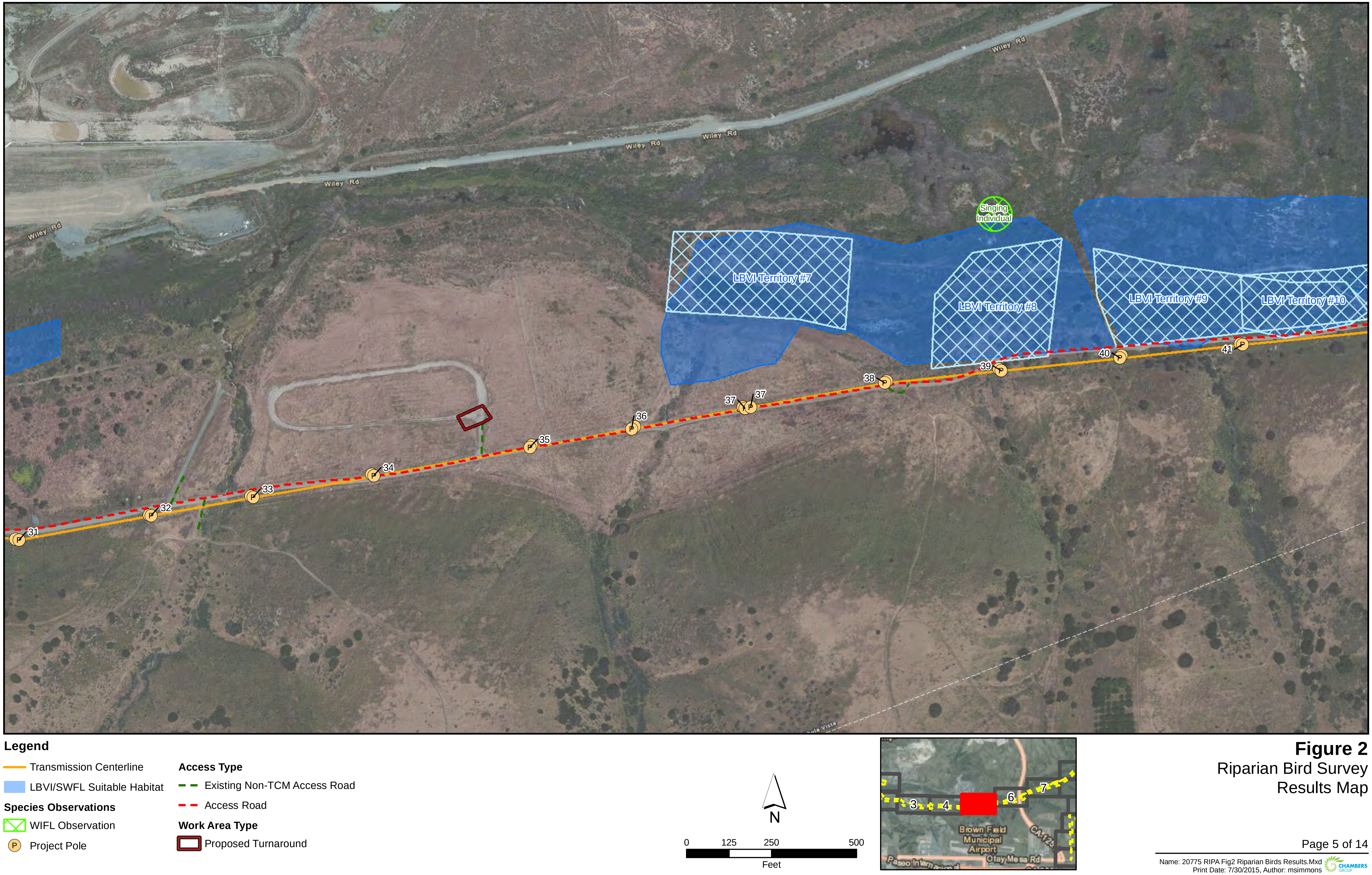
- ▨ Proposed String Site
- ☐ Proposed Turnaround

N

0 125 250 500
Feet

Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

Transmission Centerline

LBVI/SWFL Suitable Habitat

Species Observations

WIFL Observation

Project Pole

Access Type

Existing Non-TCM Access Road

Access Road

Work Area Type

Proposed Turnaround

Figure 2
Riparian Bird Survey Results Map

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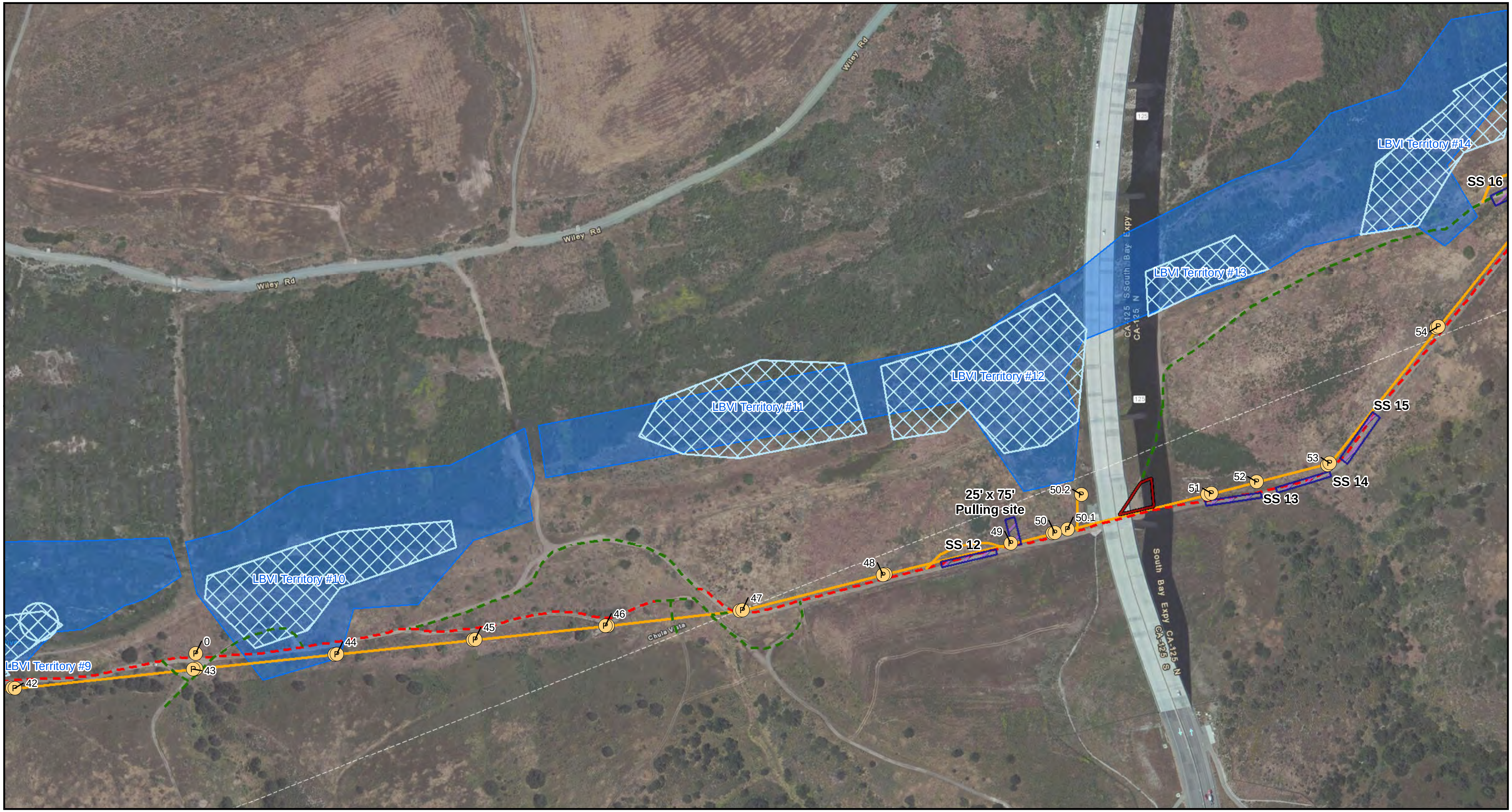


Legend

━ Transmission Centerline

🟦 LBVI/SWFL Suitable Habitat

Species Observations

▨ LBVI Observation

Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road

━ Overland Travel

Work Area Type

▨ Proposed String Site

☐ Proposed Turnaround

Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

― Transmission Centerline
🟦 LBVI/SWFL Suitable Habitat
Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road
― Overland Travel

Work Area Type

▨ Proposed String Site
▭ Proposed Turnaround

N

0 125 250 500
Feet

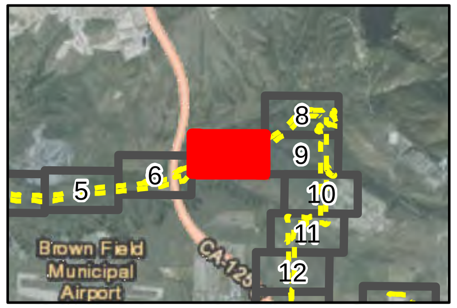


Figure 2
Riparian Bird Survey
Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

🟧 Transmission Centerline

🟦 LBVI/SWFL Suitable Habitat

Species Observations

☒ WIFL Observation

Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road

— Overland Travel

Work Area Type

▨ Proposed String Site

▭ Proposed Turnaround

N

0 125 250 500

Feet

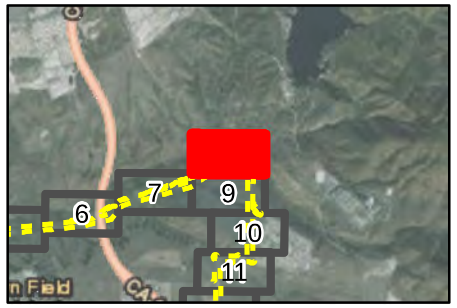


Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

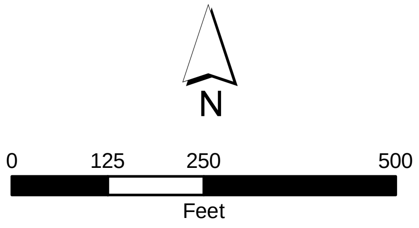
- 🟧 Transmission Centerline
- 🟦 LBVI/SWFL Suitable Habitat

Species Observations

- ☒ LBVI Observation
- Ⓟ Project Pole

Access Type

- - - Existing Non-TCM Access Road
- - - Access Road
- 🟧 Overland Travel



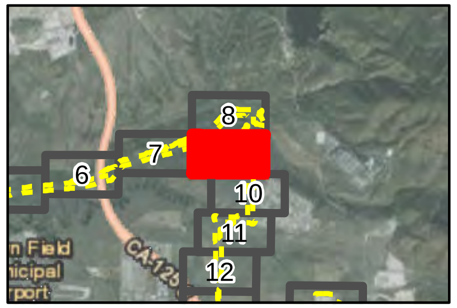


Figure 2

Riparian Bird Survey Results Map

Legend

━ Transmission Centerline

🟦 LBVI/SWFL Suitable Habitat

Ⓟ Project Pole

Access Type

╍ Existing Non-TCM Access Road

╍ Access Road

━ Overland Travel

N

0 125 250 500
Feet

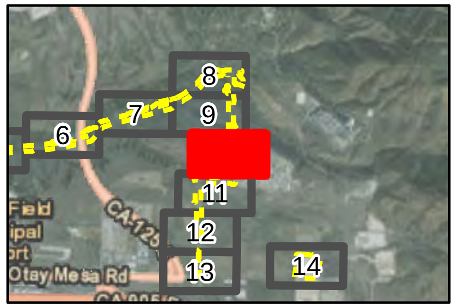


Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

━ Transmission Centerline

▭ LBVI/SWFL Suitable Habitat

Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road

━ Overland Travel

Work Area Type

▨ Proposed String Site

N

0 125 250 500

Feet

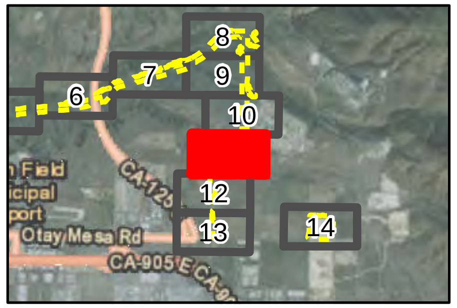


Figure 2
Riparian Bird Survey
Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

━ Transmission Centerline

Ⓟ Project Pole

Access Type

- - Existing Non-TCM Access Road

- - Access Road

Work Area Type

▨ Proposed String Site

N

0 125 250 500
Feet

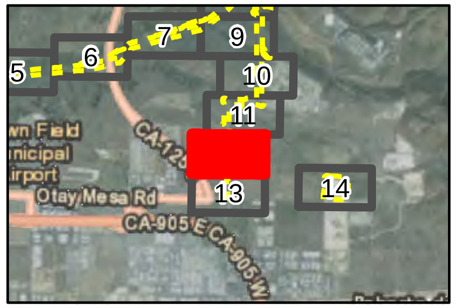


Figure 2
Riparian Bird Survey Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Access Type

- 🟩 Existing Non-TCM Access Road
- 🟥 Access Road

Figure 2
Riparian Bird Survey
Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Work Area Type

▨ Proposed Staging Yard

Figure 2

Riparian Bird Survey
Results Map

Name: 20775 RIPA Fig2 Riparian Birds Results.Mxd
Print Date: 7/30/2015, Author: msimmons

APPENDIX A – USFWS WILLOW FLYCATCHER (WIFL) SURVEY AND DETECTION FORM

APPENDIX A: USFWS Willow Flycatcher (WIFL) Survey and Detection Form

Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Site Name: **TL-649** State: **California** County: **San Diego**
USGS Quad Name: **Otay Mesa** Elevation: **60** (meters)
Creek, River, or Lake Name: **Otay River**
Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ***Yes*** **X** ***No*** ____
Survey Coordinates: Start: E **497876** N **3605552** UTM Datum: **WGS84** (See instructions)
Stop: E **505656** N **3606601** UTM Zone: **11S**

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

*****Fill in additional site information on back of this page*****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, If Yes, number of nests If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda*found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
Survey # 1 Observer(s): T. Cooper P. Howard	Date: 5/19-5/21 2014 Start: 5:30 Stop: 10:30 Total hrs: 15.0	4	0	0	N	4 migrant WIFL observed. Mostly whitting and only singing in response to call playback. Likley migrant brewsteri based on song.	# Birds	Sex	UTM E	UTM N
							1	U	501938	3605570
							3	U	504733	3606737
Survey # 2 Observer(s): T. Cooper P. Howard	Date: 6/4-6/7 2014 Start: 5:30 Stop: 10:30 Total hrs: 15.0	3	0	1	N	3 WIFL detected. 2 migrantbrewsteri based on song. One apparently territorial male SWFL detected based on song. Male banded on right leg with USFWS band. (USGS Barbara Kus was contacted who arranged for the bird to be successfully mist nettedon 6/9/14 and color banded with a pink/white on left leg.	# Birds	Sex	UTM E	UTM N
							1	U	498790	3605891
							1	U	497841	3605742
							1	M	503733	3606222
Survey # 3 Observer(s): T. Cooper P. Howard	5/19-5/21 2014 6/19-6/22 2014 Start: 5:30 Stop: 10:30 Total hrs: 15.0	1	0	1	N	Male SWFL was present on territory on 5/20/14 but not observed on subsequent visit on 5/22.	# Birds	Sex	UTM E	UTM N
							1	M	503733	3606222
Survey # 4 Observer(s):	Date: 7/1-7/3 2014	0	0	0	N		# Birds	Sex	UTM E	UTM N

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, If Yes, number of nests If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda*found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
T. Cooper	Start:									
S. Villalobos	5:30									
H. Franklin	Stop:									
	10:30									
	Total hrs:									
	15.0									
Survey # 5	Date	0	0	0	N		# Birds	Sex	UTM E	UTM N
Observer(s):	7/15-7/17 2014									
T. Cooper	Start:									
I. Maunsel	5:30									
P. Howard	Stop:									
J. Khalili	10:30									
	Total hrs:									
	15.0									

Overall Site Summary Totals do not equal the sum of each column. Be careful not to double count individuals. Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings.	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded? Yes X No
Be careful not to double count individuals. Total survey hrs: 75.0	0	0	0	0	If yes, report color combination(s) in the comments section on back of form and report to USFWS.

Reporting Individual: **Travis Cooper** Date Report Completed:

US Fish & Wildlife Service Permit #: **TE-170389-4** State Wildlife Agency Permit #: **SC-9719**

***Submit* form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.**

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual **Travis Cooper** Phone # **(949)370-0370**
Affiliation **Chambers Group Inc.** E-mail cooperbiological@gmail.com
Site Name **TL-649** Date report Completed **9/16/2014**
Was this site surveyed in a previous year? Yes____ No____ Unknown__X__
Did you verify that this site name is consistent with that used in previous yrs? Yes ____ No ____ Not Applicable **X**
If name is different, what name(s) was used in the past?
If site was surveyed last year, did you survey the same general area this year? Yes ____ No ____ If no, summarize below.
Did you survey the same general area during each visit to this site this year? Yes **X** No ____ If no, summarize below.

Management Authority for Survey Area: Federal ____ Municipal/County ____ State ____ Tribal ____ Private ____
Name of Management Entity or Owner (e.g., Tonto National Forest)

Length of area surveyed: **4.0** (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

____ Native broadleaf plants (entirely or almost entirely, > 90% native)

____ Mixed native and exotic plants (mostly native, 50 - 90% native)

X Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.
Tamarix spp., Salix spp.

Average height of canopy (Do not include a range): **5** (meters)

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;
2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;
3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features.
The survey area was divided into two sections and completed in two days with the third day being used to more thoroughly survey areas of interest.
Section 1: Start: 498209 E, 3605612 N / End: 503132 E, 3605733 N.
Section 2: Start: 503132 E, 3605733 N / End: 505461 E, 3606774 N.

7 migrant WIFL were observed. Of these on banded bird was confirmed to be SWFL and remained on a territory for at least 16 days. The bird was not detected

APPENDIX B – AVIAN SPECIES OBSERVED

APPENDIX B: Avian Species Observed

Scientific name	Common Name	Special Status
Class Aves	**BIRDS**	
Order Anseriformes	**Geese,Swans, and Ducks**	
Anasplatyrhynchos	mallard	
Order Galliformes	**Gallinaceous Birds**	
Family Odontophoridae	**New World Quail**	
Callipeplacalifornica	California quail	
Order Podicipediformes	**Grebes**	
Podilymbuspodiceps	pied-billed grebe	
Order Pelecaniformes	**Totipalmate Birds**	
Family Phalacrocoracidae	**Cormorants**	
Phalacrocoraxauritus	double-crested cormorant	WL
Order Ciconiiformes	**Herons, Ibises, Storks, American Vultures, and Allies**	
Family Ardeidae	**Herons, Bitterns, and Allies**	
Ardeaherodias	great blue heron	
Egrettathula	snowy egret	
Butoridesvirescens	green heron	
Family Threskiornithidae	**Ibises**	
Plegadischihi	white-faced ibis	WL
Family Cathartidae	**New World Vultures**	
Cathartes aura	turkey vulture	
Order Falconiformes	**Diurnal Birds of Prey**	
Family Accipitridae	**Hawks, Kites, Eagles, and Allies**	
Pandionhaliaetus	osprey	WL
Elanusleucurus	white-tailed kite	FP, WL
Circus cyaneus	northern harrier	SSC
Accipiter cooperii	Cooper's hawk	WL
Buteolineatus	red-shouldered hawk	
Buteojamaicensis	red-tailed hawk	
Family Falconidae	**Falcons**	
Falco sparverius	American kestrel	
Order Gruiformes	**Rails, Cranes, and Allies**	
Family Rallidae	**Rails, Gallinules, and Coots**	
Ralluslimicola	Virginia rail	
Gallinulagaleata	common gallinule	
Fulicaamericana	American coot	

Scientific name	Common Name	Special Status
Order Charadriiformes	**Shorebirds, Gulls, Auks, and Allies**	
Family Charadriidae	**Plover**	
Charadriusvociferus	killdeer	
Family Laridae	**Gulls, Terns, and Skimmers**	
Larusoccidentalis	western gull	
Order Columbiformes	**Pigeons and Doves**	
Family Columbidae	**Pigeons and Doves**	
Columba livia	rock pigeon	I
Zenaidamacroura	mourning dove	
Order Cuculiformes	**Cuckoos and Allies**	
Family Cuculidae	**Cuckoos and Roadrunners**	
Geococcyxcalifornianus	greater roadrunner	
Order Strigiformes	**Owls**	
Family Tytonidae	**Barn Owls**	
Tyto alba	barn owl	
Order Caprimulgiformes	**Goatsuckers and Allies**	
Family Caprimulgidae	**Goatsuckers**	
Chordeilesacutipennis	lesser nighthawk	
Order Apodiformes	**Swifts and Hummingbirds**	
Family Apodidae	**Swifts**	
Aeronautessaxatalis	white-throated swift	
Family Trochilidae	**Hummingbirds**	
Calypteanna	Anna's hummingbird	
Calypte costae	Costa's hummingbird	
Selasphorussasin	Allen's hummingbird	
Order Piciformes	**Woodpeckers and Allies**	
Family Picidae	**Woodpeckers**	
Melanerpesformicivorus	acorn woodpecker	
Picoidesnuttallii	Nuttall'swoodpecker	
Picoidespubescens	downy woodpecker	
Colaptesauratus	northern flicker	
Order Passeriformes	**Perching Birds**	
Family Tyrannidae	**Tyrant Flycatchers**	
Contopuscooperi	olive-sided flycatcher	SSC
Empidonaxtrailliibrewsteri	little willow flycatcher	SE
Empidonaxtrailliiextimus	southwestern willow flycatcher	FE, SE
Empidonaxdifficilis	Pacific-slope flycatcher	
Sayornisnigricans	black phoebe	
Sayornissaya	Say's phoebe	

Scientific name	Common Name	Special Status
Myiarchuscinerascens	ash-throated flycatcher	
Tyrannusvociferans	Cassin's kingbird	
Tyrannusverticalis	western kingbird	
Family Vireonidae	**Vireos**	
Vireo belliipusillus	least Bell's vireo	SE, FE
Vireo huttoni	Hutton's vireo	
Family Corvidae	**Crows and Jays**	
Aphelocomacalifornica	western scrub-jay	
Corvusbrachyrhynchos	American crow	
Corvuscorax	common raven	
Family Alaudidae	**Larks**	
Eremophilaalpestrisactia	California horned lark	WL
Family Hirundinidae	**Swallows**	
Tachycineta bicolor	tree swallow	
Stelgidopteryxserripennis	northern rough-winged swallow	
Hirundopyrrhonota	cliff swallow	
Family Aegithalidae	**Bushtits**	
Psaltriparusminimus	bushtit	
Family Troglodytidae	**Wrens**	
Campylorhynchusbrunneicapilluscousei	coastal cactus wren	SSC*
Salpinctesobsoletus	rock wren	
Thryomanesbewickii	Bewick'swren	
Troglodytes aedon	house wren	
Cistothoruspalustrisclarkae	Clark’s marsh wren	SSC
Family Sylviidae	**Gnatcatchers**	
Polioptilacaerulea	blue-gray gnatcatcher	
Polioptilacalifornicacalifornica	coastal California gnatcatcher	FT, SSC
Family Turdidae	**Thrushes**	
Sialiamexicana	western bluebird	
Catharusguttatus	hermit thrush	
Family Timaliidae	**Babblers**	
Chamaeafasciata	wrentit	
Family Mimidae	**Mockingbirds and Thrashers**	
Mimuspolyglottos	northern mockingbird	
Toxostomaredivivum	California thrasher	
Family Sturnidae	**Starlings**	
Sturnus vulgaris	European starling	I

Scientific name	Common Name	Special Status
Family Ptilogonatidae	**Silky-flycatchers**	
Phainopeplanitens	phainopepla	
FamilyParulidae	**Wood-Warblers**	
Vermivoracelata	orange-crowned warbler	
Dendroicapetechiabrewsteri	yellow warbler	SSC*
Geothlypistrichas	common yellowthroat	
Wilsoniapusilla	Wilson's warbler	
Icteriavirens	yellow-breasted chat	SSC
Family Emberizidae	**Embrezids**	
Pipilomaculatus	spotted towhee	
Pipilocrissalis	California towhee	
Aimophilaruficepscanescens	southern California rufous-crowned sparrow	WL
Ammodramussavannarum	grasshopper sparrow	SSC
Zonotrichialeucophrys	white-crowned sparrow	
Family Cardinalidae	**Cardinals and Allies**	
Pheucticusmelanocephalus	black-headed grosbeak	
Passerinacaerulea	blue grosbeak	
Family Icteridae	**Blackbirds**	
Agelaiusphoeniceus	red-winged blackbird	
Sturnellaneglecta	western meadowlark	
Euphaguscyanocephalus	Brewer's blackbird	
Molothrusater	brown-headed cowbird	
Icterus cucullatus	hooded oriole	
Icterus bullockii	Bullock's oriole	
Family Fringillidae	**Fringilline and Cardueline Finches and Allies**	
Carpodacusmexicanus	house finch	
Carduelispsaltria	lesser goldfinch	
Carduelislawrencei	Lawrence's goldfinch	
Carduelistristis	American goldfinch	

I= Introduced Species
X= Extirpated
*=species with extremely limited distributions
FE= Federally Listed Endangered
FT= Federally Listed Threatened

SE= State Listed Endangered
ST= State Listed Threatened

SSC= CDFWSpecies of Special Concern
WL= CDFWList of Taxa to Watch
FP= CDFWFully Protected

APPENDIX I – BURROWING OWL REPORT

2014
TIE-LINE 649 WOOD TO STEEL POLE REPLACEMENT PROJECT
BURROWING OWL
SURVEY REPORT

Prepared for:

SAN DIEGO GAS & ELECTRIC COMPANY
8326 Century Park Court
San Diego, CA 92123

Prepared by:

CHAMBERS GROUP, INC.
9909 Huennekens Street, Suite 206
San Diego, California 92121
858-541-2800

February 2015

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LIST OF APPENDICES

LIST OF TABLES

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SECTION 1.0 – INTRODUCTION

The purpose of this report is to document the results of the protocol western burrowing owl (*Athene cunicularia hypogea*; BUOW) surveys conducted by Chambers Group, Inc. (Chambers Group) during the 2014 bird breeding season and the 2015 non-breeding season (winter) for the San Diego Gas & Electric (SDG&E) Tie-Line (TL) 649 Wood to Steel Pole Replacement Project (Project).

1.1 PROJECT DESCRIPTION

SDG&E proposes the Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Proposed Project or Project) in an effort to fire-harden existing facilities in SDG&E's service territory. SDG&E proposes to replace wood poles with steel poles along approximately seven miles of the existing 69-kilovolt (kV) single-circuit power line. This segment of the Proposed Project is located in the cities of San Diego and Chula Vista, California (State), as well as unincorporated San Diego County (County). The Proposed Project extends east from Black Coral Way and Sea Lavender Way in the City of San Diego for approximately five miles; then travels south for approximately two miles to just north of Otay Mesa Road in unincorporated San Diego County. Over this distance, the Project traverses private and public lands, including lands owned by the County of San Diego, the City of San Diego, the City of Chula Vista, the State of California, and SDG&E. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

Specifically, SDG&E proposes to conduct the following activities as part of the Proposed Project:

- Remove approximately 132 existing wood power line and interset distribution line poles and replace them with approximately 117 galvanized steel structures. Of the 117 replacement structures, approximately 21 poles will require a pier foundation, approximately seven will require a micropile foundation, and the remaining 89 will be directly buried;
- Conduct overhead work on approximately two existing power line poles and approximately one existing distribution line pole;
- Convert approximately 430 feet of underground power line cable under State Route (SR) 125 to an overhead configuration;
- Transfer existing 69 kV power line conductors to the new steel poles;
- Transfer approximately 1.5 miles of existing distribution conductors and replace approximately 3.9 miles of distribution conductors with new aluminum conductor steel-reinforced distribution conductors.

SDG&E will utilize approximately 28 stringing sites, two temporary guard structures, and two staging areas during construction of the Proposed Project. The Proposed Project is consistent with SDG&E's efforts to improve reliability in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line according to the existing vegetation and fuel conditions, the history of high-speed winds in the area, and the age and condition of the existing facilities as part of an overall strategy to strengthen power lines for improved system reliability. SDG&E periodically reviews and updates the prioritization of these poles for replacement based on changes in field conditions, such as increases in the density of vegetation (fire fuel)

surrounding existing poles. The Proposed Project incorporates updated design standards to reduce fire risks and will implement a Project-specific fire plan to minimize fire risks during construction.

1.2 BURROWING OWL

The BUOW is a California Species of Special Concern (SSC), California BLM Sensitive Animal, and a narrow endemic (NE) species covered under SDG&E's Natural Community Conservation Plan (NCCP). Impacts to species designated as NE under SDG&E's NCCP are to be avoided as a primary means of mitigation. If impacts may occur to NE species, SDG&E will coordinate with United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) regarding additional mitigation for potential impacts.

This species breeds in open plains from western Canada and the western United States, Mexico through Central America, and into South America to Argentina (Klute et al. 2003). This species inhabits dry, open, native or non-native grasslands, deserts, and other arid environments with low-growing and low-density vegetation (Ehrlich et al. 1988). It may occupy golf courses, cemeteries, road rights-of-way (ROWs), airstrips, abandoned buildings, irrigation ditches, and vacant lots with holes or cracks suitable for use as burrows (TLMA 2006). It occupies mammal burrows such as badger, prairie dog, and ground squirrel burrows for subterranean shelter and nesting (Trulio 1997). When burrows are scarce, the burrowing owl may use man-made structures such as openings beneath cement or asphalt pavement, pipes, culverts, and nest boxes (TLMA 2006). One burrow is typically selected for use as the nest; however, satellite burrows are usually found in the immediate vicinity of the nest burrow within the defended territory of the owl.Burrowing owls are active day and night, with peak times at dawn and dusk (Klute et al. 2003). Breeding typically occurs from March through August, with peak periods in May and July.

The burrowing owl is a small, ground-dwelling owl with a round, grey-brown, tuftless head; long, bare, yellow legs; bright yellow iris; brown back; and buffy-white underparts with brown barring (Klute et al. 2003). Insects form the bulk of its diet in the summer and small mammals, birds, and reptiles in the winter (Klute et al. 2003).

Threats to burrowing owl populations include the loss of and destruction of habitat from agriculture and urban development, the destruction of burrows, and indirect poisoning via rodent eradication efforts (Klute et al. 2003).

SECTION 2.0 – METHODOLOGY

2.1 SURVEY AREA

The survey area included suitable habitat, as determined during an initial habitat assessment described in the following section, within 150 meters from the Proposed Project ROW and Project components(

Figure 1). Habitat adjacent to the survey area was opportunistically surveyed in order to increase the chance of detecting the target species near the Project ROW that may disperse within the survey area..

2.2 HABITATASSESSMENT

In accordance with the California Department of Fish and Wildlife (CDFW) Burrowing Owl Staff Report (2012) an initial habitat assessment was conducted on April 18. Prior to conducting the field surveys, existing documentation relevant to the Survey Area was reviewed. The most recent records of the CDFW California Natural Diversity Database (CNDDB 2014) were reviewed for the quadrangles containing and surrounding the Survey Area (i.e., Imperial Beach and Otay Mesa USGS 7.5-minute quadrangles); a 5-mile radius surrounding the Proposed Project ROW was reviewed. Written descriptions and maps of the biological settings, including location (Section, Township, Range, baseline and meridian), acreage, topography, soils, geographic and hydrologic characteristics, land use and management history on and adjoining the site are provided in the Biological Technical Report for the Project. The field assessment was performed by systematically searching for potential foraging and nesting habitat within 150 meters of proposed Project components. According to the 2012 CDFW Burrowing Owl Staff Report burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey. Burrow surrogates include culverts, piles of concrete rubble, piles of soil, burrows created along soft banks of ditches and canals, pipes, and similar structures. Foraging habitat is habitat within the estimated home range of an occupied burrow, supports suitable prey base, and allows for effective hunting (CDFW 2012).

2.3 BREEDING AND NON-BREEDING SEASON FOCUSED SURVEYS

Following the initial habitat assessment, Chambers Group biologists conducted three focused breeding surveys for a total of four breeding season surveys, and four focused non-breeding surveys for BUOW throughout the Project ROW and adjacent 150-meter buffer area within suitable habitat identified during the habitat assessment. Each survey was conducted by walking transects spaced no more than 100 feet apart throughout the survey area to allow for 100 percent visual ground coverage. The locations of all suitable burrows and surrogates, sign, and individuals observed were recorded and mapped using Global Positioning Systems (GPS) coordinates. Burrows were mapped as active, potential, or inactive. Active burrows were determined by presence of eggs or chicks. Potential burrows were determined by the presence of fresh pellets, prey remains, whitewash, or decorations. Inactive burrows were determined as those capable of supporting BUOW but with no signs of recent use.

Surveys were conducted during weather that would not adversely affect the ability to detect BUOW or their sign. The survey was not performed during periods of rain or dense fog, high winds (greater than 20 mph), or temperatures over 90 degrees Fahrenheit(°F). Surveys were conducted within one hour before sunrise to two hours after sunrise to provide the highest detection probabilities. Survey dates, personnel, and weather conditions are provided within **Error! Reference source not found.**.

SECTION 3.0 – RESULTS

A total of six survey areas were mapped and surveyed as suitable BUOW habitat. All suitable habitats occurred within non-native grasslands, disturbed habitat, and bare ground. Areas characterized as non-native annual grasslands were comprised predominately of non-native grass species averaging under one foot in height at time of survey. Dominant plant species observed within this community included several different non-native brome grass species (*Bromus* spp.), wild oat (*Avena* sp.), black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), and shortpod mustard (*Hirschfeldia incana*). Areas characterized by disturbed habitat had prior evidence of human or natural disturbance. These areas were primarily dominated by various combinations of brome grass species, prickly Russian thistle (*Salsola tragus*), slender wild oat (*Avena fatua*), tocalote (*Centaurea melitensis*), stork's bill (*Erodium cicutarium*), lambsquarters (*Chenopodium album*), and hairy crabgrass (*Digitaria sanguinalis*). Areas characterized as bare ground habitats include areas with exposed soils, rocky substrate, access roads, and disturbed areas devoid of plant cover. Area 1 is located on the east side of Heritage Road between location 18 and 24 and is 32.72 acres in size. A total of 15 inactive burrows were found in dirt mounds along the northern and southern edges of this area. The majority of these burrows were occupied by ground squirrels. No signs of current use by BUOW were observed. Area 2 is located between locations 47 and 50 and is 3.87 acres in size. A total of four inactive burrows were found. These were all located in a large dirt mound along the northern edge of the survey area and suitable in size for BUOW. Area 3 is located directly north of Otay Mesa Road between locations 103 and 116 extending and is 115 acres in size. A total of seven inactive burrows suitable in size for BUOW were found. The majority of these were clustered in small dirt mounds. One potentially active BUOW burrow was found adjacent to location 108. On April 30, during the first round of surveys, several very fresh scat were observed near this burrow. The scat consisted of mainly beetle exoskeleton, suggesting BUOW. No addition signs of use of occupancy were observed on subsequent rounds. Area 4 is located directly south of the Project access road entrance off Otay Mesa Road and is 2.5 acres in size. No burrows were found inside this survey area. Area 5 is located directly east of the proposed Otay Staging Yard and is 6.4 acres in size. A total of 17 inactive burrows were found. The majority of these burrows were occupied by ground squirrels and suitable in size for BUOW. Area 6 is located approximately 300 feet east of proposed stringing site 21 adjacent to location 76 and is 0.84 aces in size. One inactive cluster of burrow was found on a north facing hillside suitable in size for burrowing owl in this area.

The Main Street Staging Yard was incorporated into the Proposed Project after BUOW assessments and focused surveys were conducted. Suitable habitat for BUOW was identified on November 3, 2014 within the Main Street Staging Yard. Wintering BUOW surveys were conducted within the entire Proposed Project Survey Area, including the Main Street Staging Yard. No occupied wintering habitat was observed within the Survey Area. No occupied wintering habitat was observed within the Survey Area.

SECTION 4.0 – DISCUSSION

Given the results of the 2014/2015 protocol surveys, it is assumed that BUOW did not use the survey area during the 2014 nesting season or non-breeding season; however, BUOW has a high potential to occur within the survey area in future years. CNDDB lists 17 records of occurrence within 5 miles of the Project with three records being within 1,500 feet of the ROW. In addition, several recent breeding records exist for BUOW in the Otay Mesa area in similar habitat closer to Brown Field Municipal Airport roughly 2.0 miles west of survey Area 3. The BUOW population at Brown Field is considered one of the last large populations of BUOW in San Diego County and may support between 5 and 10 breeding pairs (Unitt 2004). Adult and juvenile BUOW from these territories may form breeding territories in future nesting seasons in similar locations along the Proposed Project ROW.

SECTION 5.0 – REFERENCES

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Trulio, Lynne A.
1997 Strategies for Protecting Western Burrowing Owls ("*Athene cunicularia hypugaea*") from Human Activities. In: Duncan, James R.; Johnson, David H.; Nicholls, Thomas H., eds. Biology and Conservation of Owls of the Northern Hemisphere: 2nd International symposium. Gen. Tech. Rep. NC-190. St. Paul, MN: United States Department of Agriculture, Forest Service, North Central Forest Experiment Station. 461-465.

Unitt, P.
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Table 1: Survey Conditions Summary

Date	Personnel	Time		Temp. (°F)	Wind (mph)	Sky (% Cloud)
Habitat Assessment						
4/18/2014	P. Howard	Start	0725	67	0-5	75
		End	1600	72	5-10	40
Breeding Season Survey Round 1						
4/30/2014	P. Howard, S. Howard	Start	0600	65	0-3	5
		End	1030	79	0-3	5
5/2/2014	P. Howard	Start	0600	63	0-3	5
		End	1030	80	0-3	5
Breeding Season Survey Round 2						
6/9/2014	P. Howard	Start	0600	68	0	60
		End	1030	72	0	40
6/10/2014	P. Howard, R. Meszaros	Start	0615	65	0-3	75
		End	1030	72	0	60
6/11/2014	P. Howard, R. Meszaros, S. Howard	Start	0630	67	0-2	20
		End	1030	70	0-2	10
Breeding Season Survey Round 3						
7/14/2014	J. Khalili	Start	0630	67	4-6	100
		End	1030	69	4-6	100
7/15/2014	J. Khalili, M. Dao	Start	0630	67	4-6	100
		End	1030	69	4-6	100
Wintering Survey Round 1						
12/18/14	P. Howard, C. Klein	Start	0730	57	1-2	80
		End	1200	69	1-2	0
Wintering Survey Round 2						
1/10/2015	P. Howard, S. Howard	Start	0600	54	3-5	80
		End	1030	61	3-5	60
1/12/2015	P. Howard S. Howard	Start	0600	54	4-6	100
		End	1030	62	4-6	80
Wintering Survey Round 3						
1/22/2015	P. Howard	Start	0600	51	2-4	60

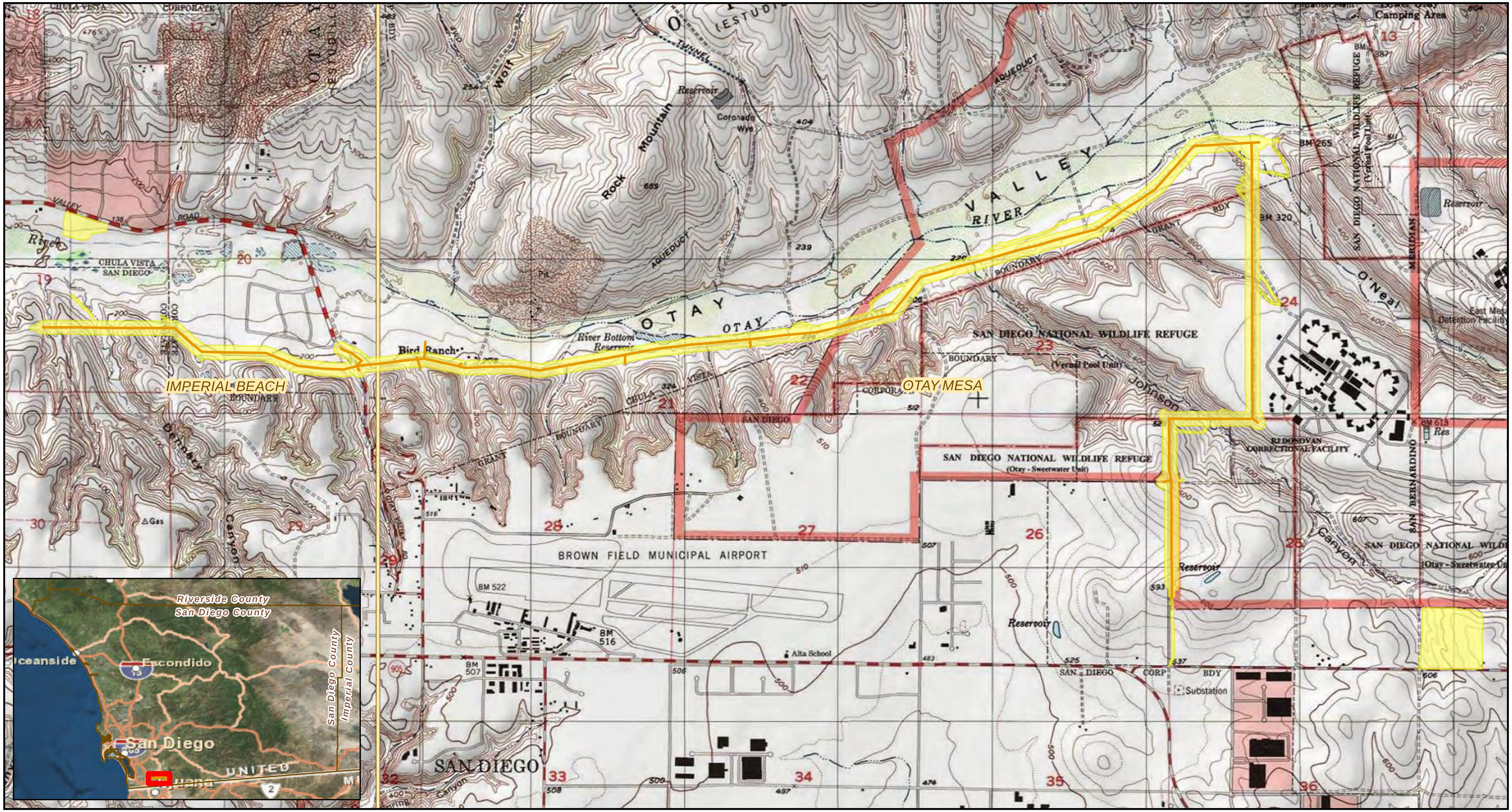
Table 1: Survey Conditions Summary

Date	Personnel	Time		Temp. (°F)	Wind (mph)	Sky (% Cloud)
		End	1030	67	2-4	50
1/23/2015	P. Howard	Start	0600	50	0-2	60
		End	1030	68	0-2	40
Wintering Survey Round 4						
1/30/2015	P. Howard	Start	0700	56	4-6	100
		End	1200	62	4-6	100

Table 2: Burrow Observations

Nest Status	Created Date	Latitude	Longitude	Area
Potential Nest	4/30/2014	32.578347	-116.944871	3
Inactive	4/30/2014	32.572467	-116.946373	3
Inactive	4/30/2014	32.571931	-116.944764	3
Inactive	4/30/2014	32.571813	-116.944742	3
Inactive	4/30/2014	32.571630	-116.944828	3
Inactive	4/30/2014	32.571577	-116.944699	3
Inactive	4/30/2014	32.568422	-116.944251	3
Inactive	4/30/2014	32.568305	-116.944356	5
Inactive	4/30/2014	32.567950	-116.922340	5
Inactive	4/30/2014	32.568101	-116.922469	5
Inactive	4/30/2014	32.568251	-116.922383	5
Inactive	4/30/2014	32.568358	-116.922448	5
Inactive	4/30/2014	32.568433	-116.922898	5
Inactive	4/30/2014	32.568315	-116.922748	5
Inactive	4/30/2014	32.568541	-116.922619	5
Inactive	4/30/2014	32.568691	-116.922662	5
Inactive	4/30/2014	32.568959	-116.922791	5
Inactive	4/30/2014	32.569109	-116.922941	5
Inactive	4/30/2014	32.569324	-116.922834	5
Inactive	5/2/2014	32.585524	-116.999956	1
Inactive	5/2/2014	32.585506	-117.000346	1
Inactive	5/2/2014	32.585507	-117.000768	1
Inactive	5/2/2014	32.588395	-116.967995	2
Inactive	5/2/2014	32.588367	-116.968088	2
Inactive	5/2/2014	32.598330	-116.936362	6
Inactive	6/9/2014	32.586297	-117.002120	1
Inactive	6/9/2014	32.588861	-117.001648	1
Inactive	6/9/2014	32.585717	-116.999373	1
Inactive	6/9/2014	32.588539	-117.000253	1
Inactive	6/9/2014	32.588528	-116.999717	1
Inactive	6/9/2014	32.588475	-116.999631	1
Inactive	6/9/2014	32.588475	-116.999481	1
Inactive	6/9/2014	32.588443	-116.999288	1
Inactive	6/9/2014	32.588582	-116.999094	1
Inactive	6/9/2014	32.588646	-116.998944	1

Nest Status	Created Date	Latitude	Longitude	Area
Inactive	6/9/2014	32.585653	-116.999674	1
Inactive	6/10/2014	32.589220	-117.003749	1
Inactive	6/10/2014	32.588271	-116.969934	2
Inactive	6/10/2014	32.588207	-116.969354	2
Inactive	6/10/2014	32.569474	-116.923306	5
Inactive	6/10/2014	32.570504	-116.923070	5
Inactive	6/10/2014	32.570665	-116.923435	5
Inactive	6/10/2014	32.569109	-116.923392	5
Inactive	6/10/2014	32.570365	-116.922855	5
Inactive	6/10/2014	32.569592	-116.922770	5



Legend

- Transmission Centerline
- 🟨 Survey Corridor
- ☐ USGS 7.5-min Quadrangle

N

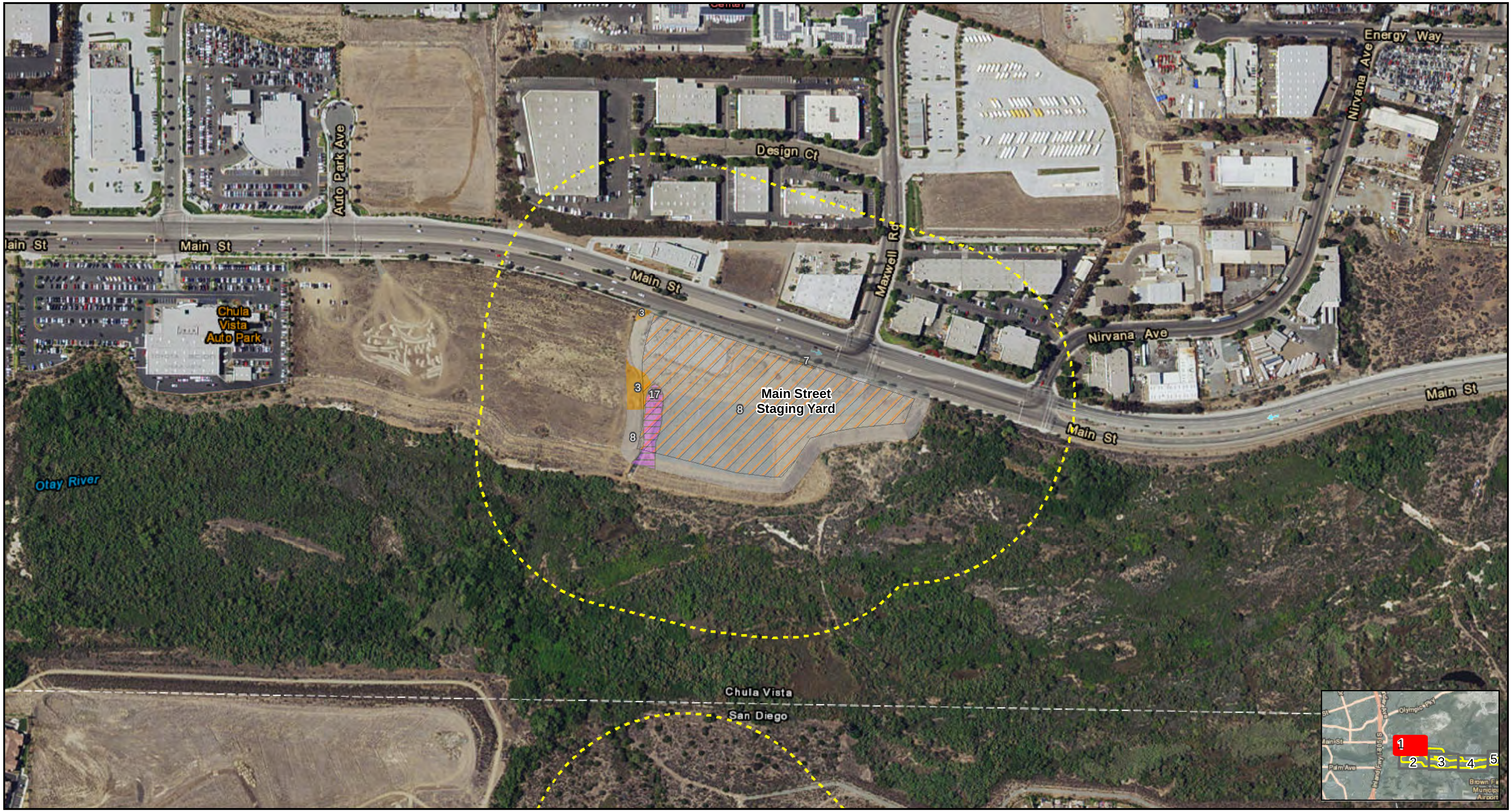
0 0.25 0.5 1
Miles

Figure 1
Burrowing Owl Survey
Overview Map

Scale = 1:24,000

Name: 20775 BUOW Fig1 Overview Map.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP



Legend

⬚ Survey Buffer - 500 feet

Work Area Type

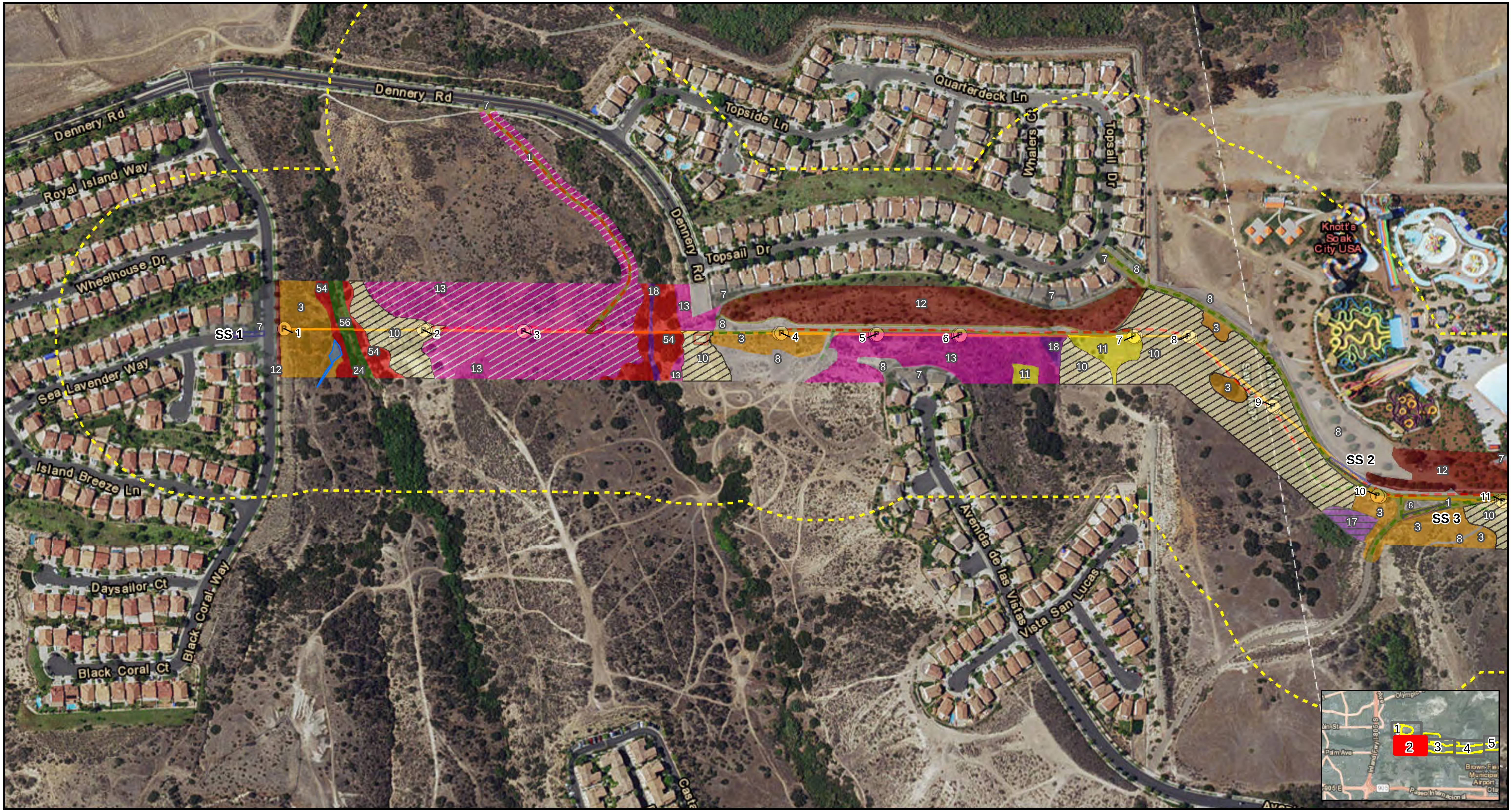
▨ Proposed Staging Yard

Figure 2
Burrowing Owl Survey
Results Map

N

0 125 250 500
Feet

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

Survey Buffer - 500 feet

Ⓟ Project Pole

Work Area Type

▨ Proposed String Site

☐ Proposed Turnaround Area

Access Type

Existing Non-TCM Access Road

Access Road

BUOW Survey Results

🟦 BUOW Suitable Habitat

N

0 125 250 500

Feet

Figure 2

Burrowing Owl Survey
Results Map

Legend

- Survey Buffer - 500 feet
- Ⓟ Project Pole
- Π Guard Structure

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround Area

Access Type

- Existing Non-TCM Access Road
- Access Road

BUOW Nest

- ⊗ Suitable Inactive BUOW Burrow

BUOW Survey Results

- 🟦 BUOW Suitable Habitat

N

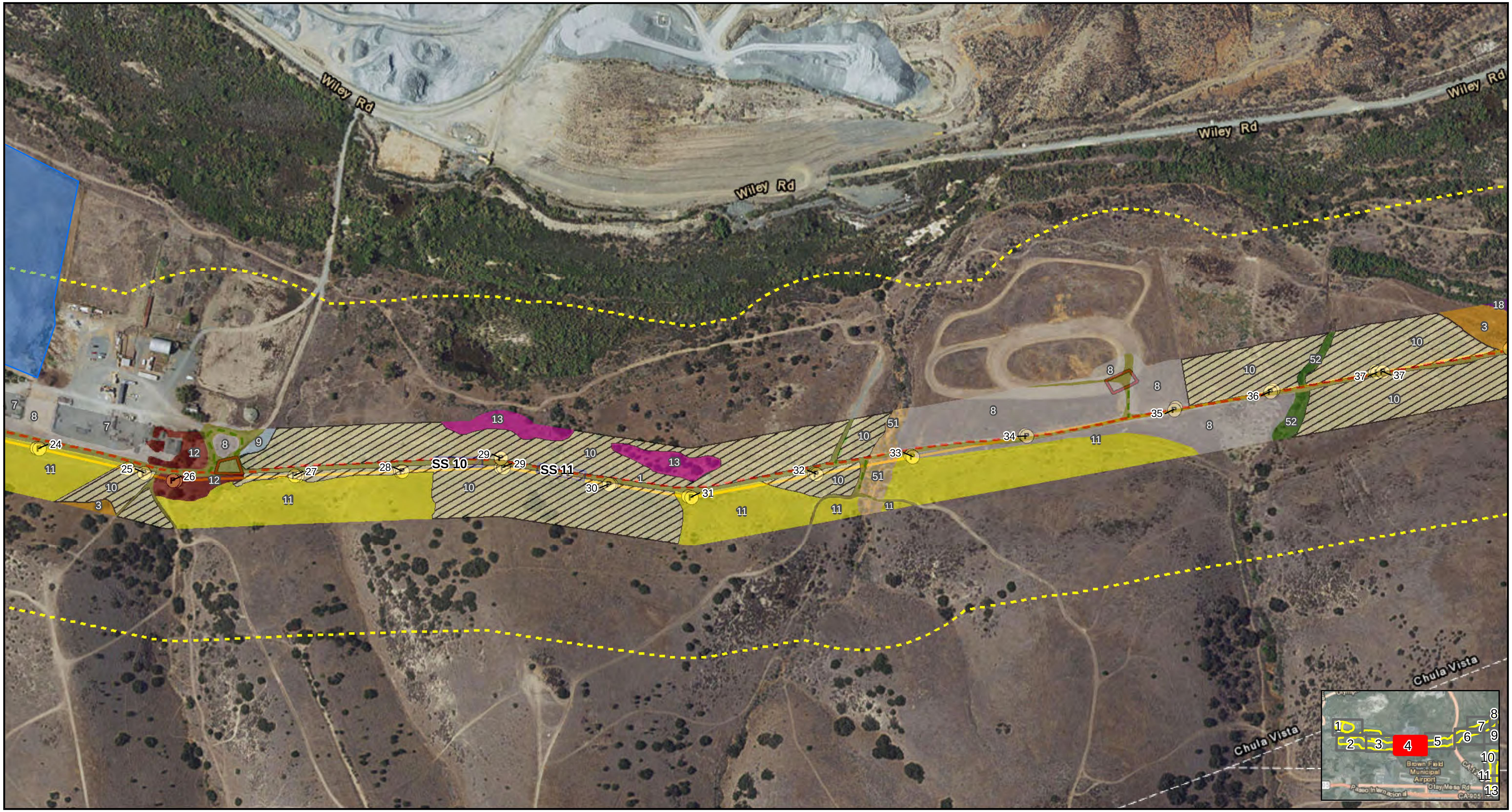
0 125 250 500

Feet

Figure 2

Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- Survey Buffer - 500 feet
- Ⓟ Project Pole

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround Area

Access Type

- Existing Non-TCM Access Road
- Access Road

BUOW Survey Results

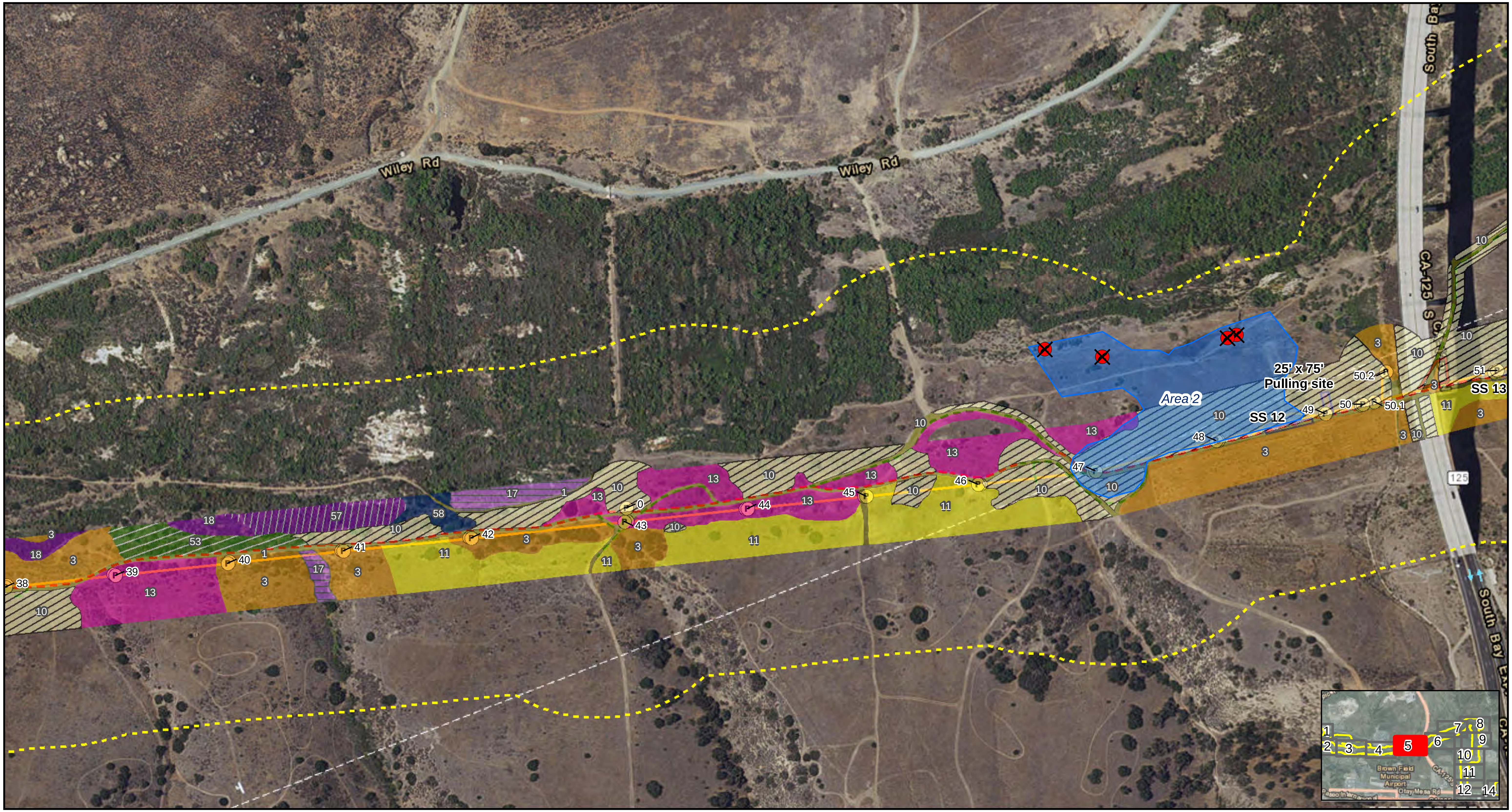
- 🟦 BUOW Suitable Habitat

N

0 125 250 500
Feet

Figure 2
Burrowing Owl Survey
Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

⬚ Survey Buffer - 500 feet

Ⓟ Project Pole

Work Area Type

▨ Proposed String Site

☐ Proposed Turnaround Area

Access Type

-- Existing Non-TCM Access Road

-- Access Road

— Overland Travel

BUOW Nest

☒ Suitable Inactive BUOW Burrow

BUOW Survey Results

■ BUOW Suitable Habitat

N

0 125 250 500

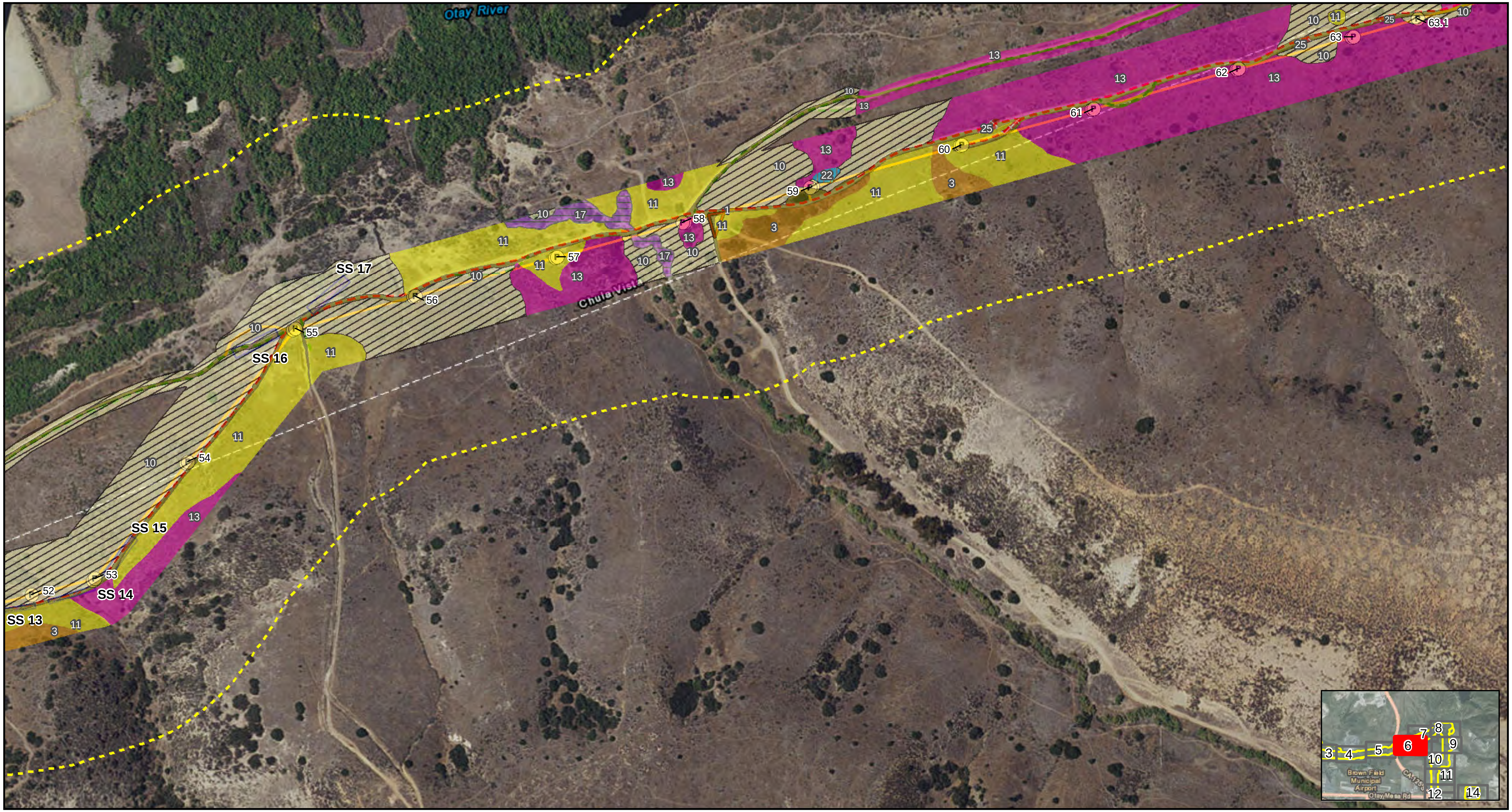
Feet

Figure 2

Burrowing Owl Survey
Results Map

Page 5 of 14

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

- ▭ Survey Buffer - 500 feet
- Ⓟ Project Pole

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround Area

Access Type

- – – Existing Non-TCM Access Road
- – – Access Road
- — Overland Travel

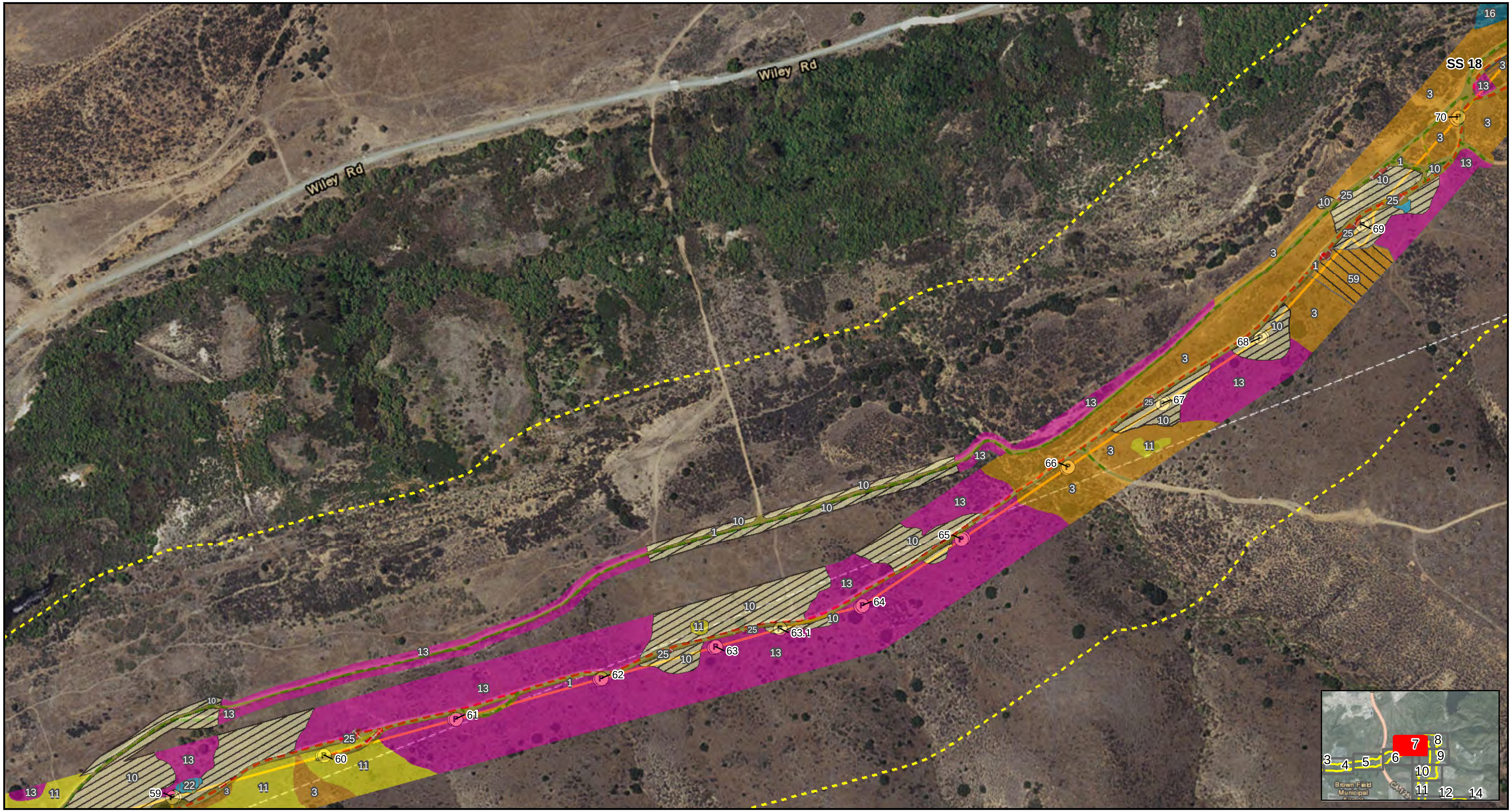
N

0 125 250 500
Feet

Figure 2
Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

CHAMBERS GROUP



Legend

Survey Buffer - 500 feet

(P) Project Pole

Work Area Type

▨ Proposed String Site

Access Type

Existing Non-TCM Access Road

Access Road

Overland Travel

N

0 125 250 500

Feet

Figure 2

Burrowing Owl Survey
Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

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Legend

- ▭ Survey Buffer - 500 feet
- Ⓟ Project Pole

Work Area Type

- ▨ Proposed String Site
- ▭ Proposed Turnaround Area

Access Type

- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ― Overland Travel

BUOW Nest

- ☒ Suitable Inactive BUOW Burrow

BUOW Survey Results

- 🟦 BUOW Suitable Habitat

N

0 125 250 500
Feet

Figure 2
Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Survey Buffer - 500 feet

Ⓟ Project Pole

Access Type

Existing Non-TCM Access Road

Access Road

Overland Travel

N

0 125 250 500

Feet

Figure 2

Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

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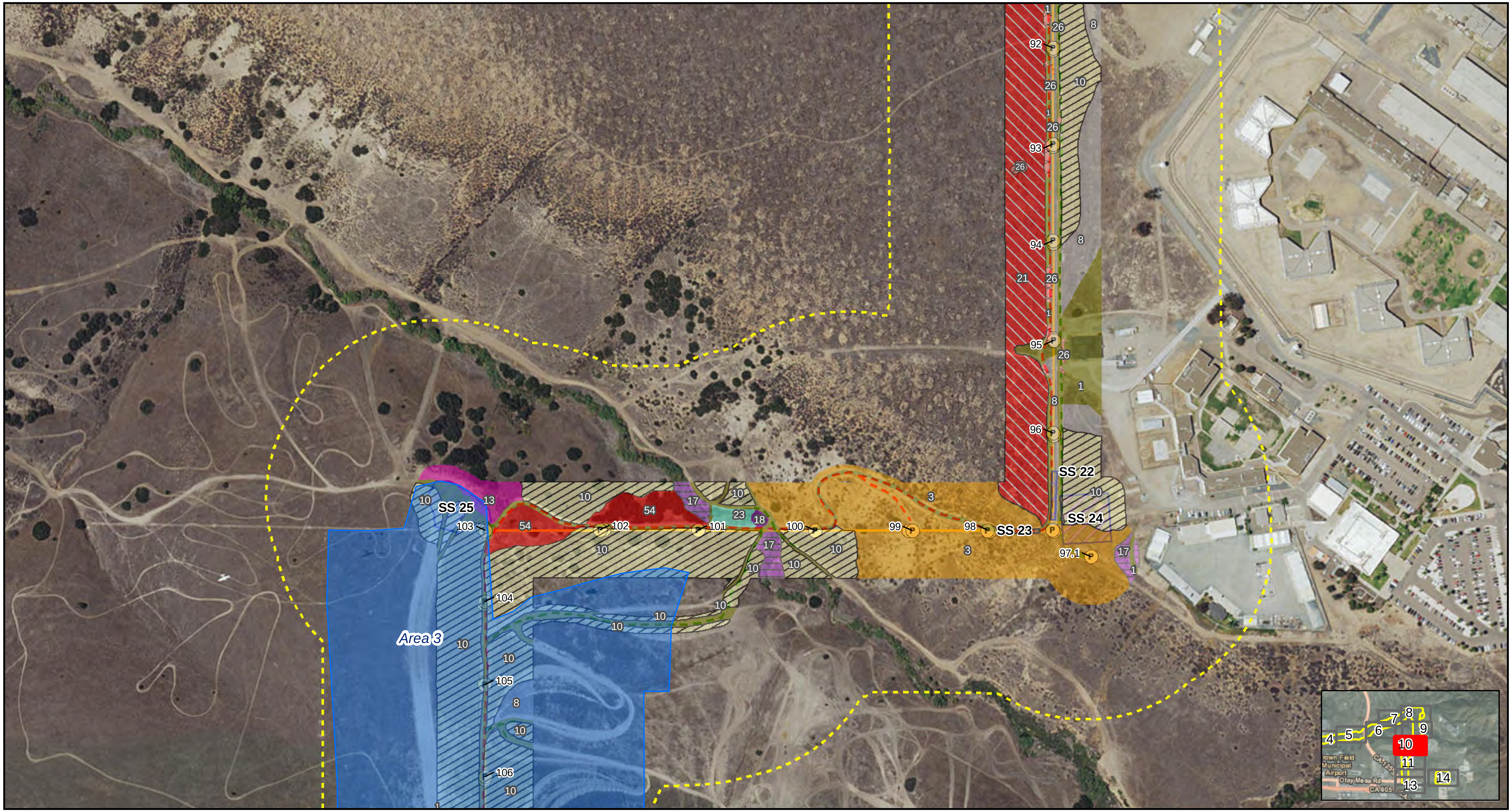


Legend

Survey Buffer - 500 feet

Ⓟ Project Pole

Work Area Type

▨ Proposed String Site

Access Type

Existing Non-TCM Access Road

Access Road

Overland Travel

BUOW Survey Results

🟦 BUOW Suitable Habitat

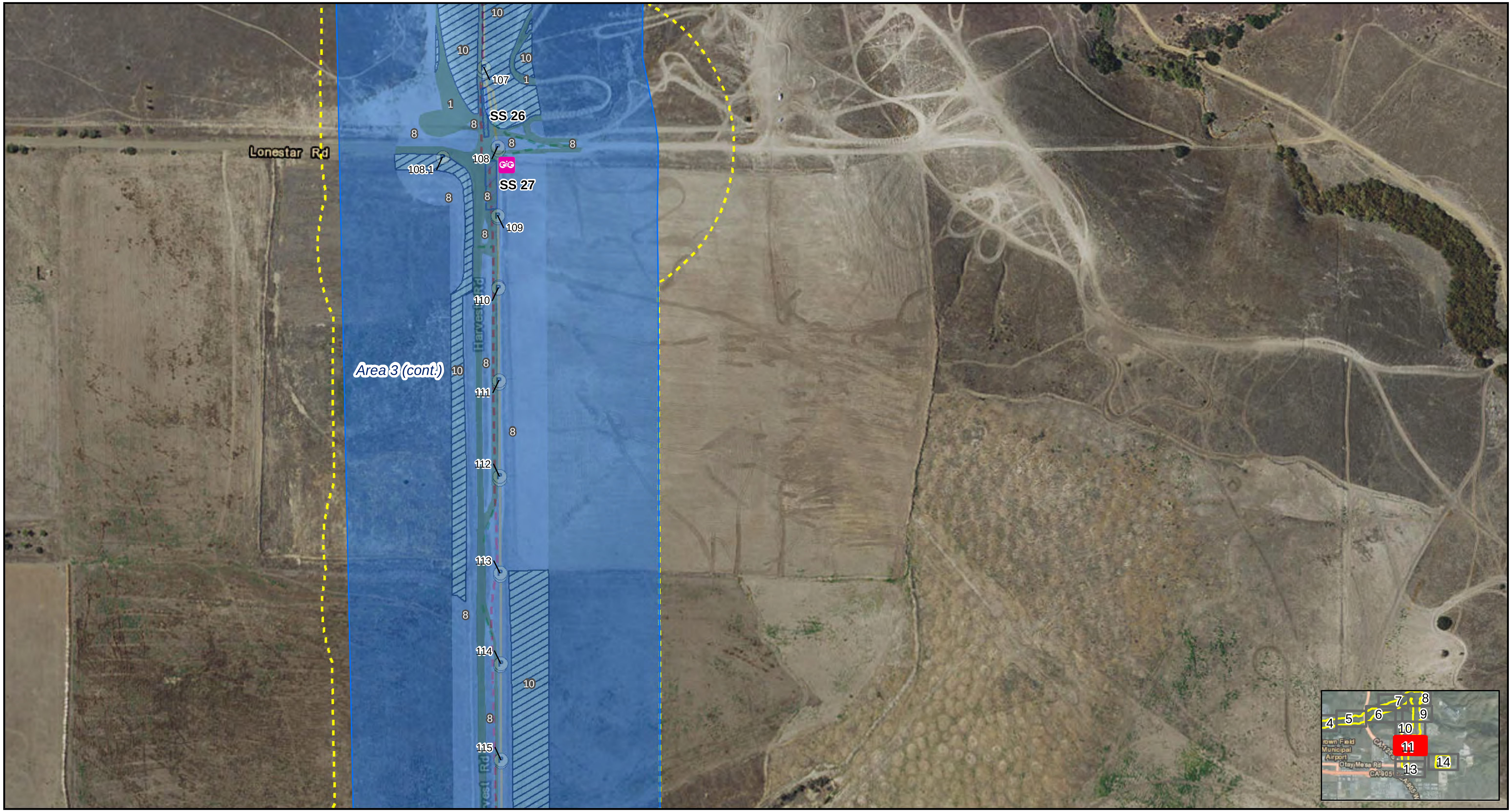
N

0 125 250 500

Feet

Figure 2
Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

Survey Buffer - 500 feet

Ⓟ Project Pole

Work Area Type

▨ Proposed String Site

Access Type

Existing Non-TCM Access Road

Access Road

Overland Travel

BUOW Nest

Potentially Active BUOW Burrow

BUOW Survey Results

BUOW Suitable Habitat

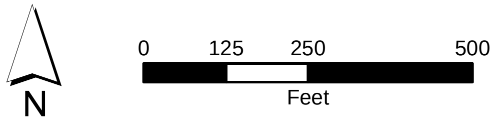


Figure 2
Burrowing Owl Survey
Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

Survey Buffer - 500 feet

Ⓟ Project Pole

Work Area Type

▨ Proposed String Site

Access Type

Existing Non-TCM Access Road

Access Road

BUOW Nest

⊗ Suitable Inactive BUOW Burrow

BUOW Survey Results

BUOW Suitable Habitat

N

0 125 250 500

Feet

Figure 2

Burrowing Owl Survey Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons

Legend

▨ Survey Buffer - 500 feet

Access Type

-- Existing Non-TCM Access Road

-- Access Road

BUOW Nest

☒ Suitable Inactive BUOW Burrow

BUOW Survey Results

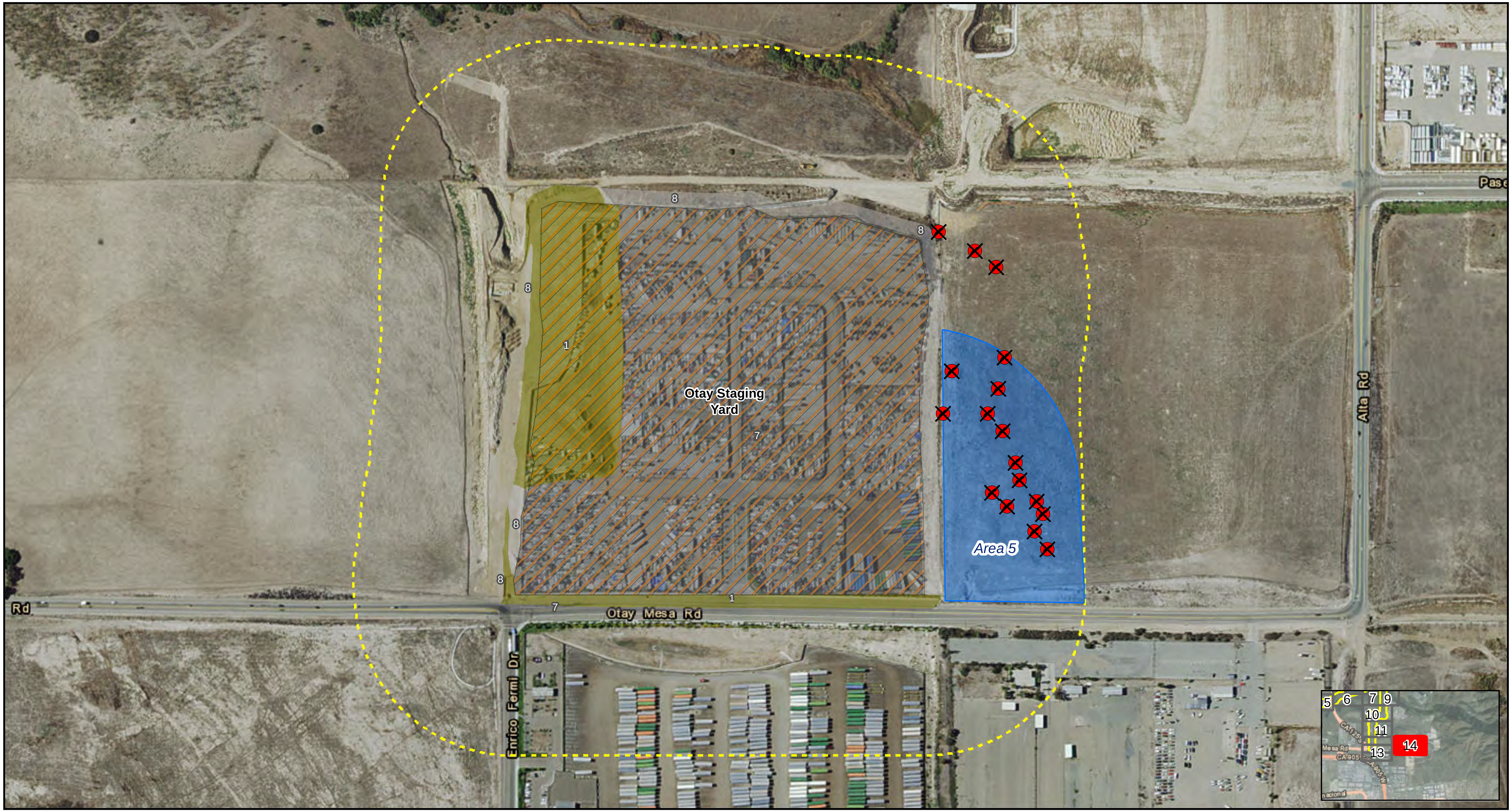
🟦 BUOW Suitable Habitat

N

0 125 250 500
Feet

Figure 2
Burrowing Owl Survey
Results Map

Name: 20775 BUOW Fig2 BUOW Results.Mxd
Print Date: 7/30/2015, Author: msimmons



Legend

⬚ Survey Buffer - 500 feet

Work Area Type

▨ Proposed Staging Yard

BUOW Nest

☒ Suitable Inactive BUOW Burrow

BUOW Survey Results

🟦 BUOW Suitable Habitat

N

0 125 250 500
Feet

Figure 2
Burrowing Owl Survey Results Map

APPENDIX A – AVIAN SPECIES OBSERVED

APPENDIX A: Avian Species Observed

Scientific name	Common Name	Special Status
Class Aves	**BIRDS**	
Order Anseriformes	**Geese,Swans, and Ducks**	
Anasplatyrhynchos	mallard	
Order Galliformes	**Gallinaceous Birds**	
Family Odontophoridae	**New World Quail**	
Callipeplacalifornica	California quail	
Order Podicipediformes	**Grebes**	
Podilymbuspodiceps	pied-billed grebe	
Order Pelecaniformes	**Totipalmate Birds**	
Family Phalacrocoracidae	**Cormorants**	
Phalacrocoraxauritus	double-crested cormorant	WL
Order Ciconiiformes	**Herons, Ibises, Storks, American Vultures, and Allies**	
Family Ardeidae	**Herons, Bitterns, and Allies**	
Ardeaherodias	great blue heron	
Egrettathula	snowy egret	
Butoridesvirescens	green heron	
Family Threskiornithidae	**Ibises**	
Plegadischihi	white-faced ibis	WL
Family Cathartidae	**New World Vultures**	
Cathartes aura	turkey vulture	
Order Falconiformes	**Diurnal Birds of Prey**	
Family Accipitridae	**Hawks, Kites, Eagles, and Allies**	
Pandionhaliaetus	osprey	WL
Elanusleucurus	white-tailed kite	FP, WL
Circus cyaneus	northern harrier	SSC
Accipiter cooperii	Cooper's hawk	WL
Buteolineatus	red-shouldered hawk	
Buteojamaicensis	red-tailed hawk	
Family Falconidae	**Falcons**	
Falco sparverius	American kestrel	
Order Gruiformes	**Rails, Cranes, and Allies**	
Family Rallidae	**Rails, Gallinules, and Coots**	
Ralluslimicola	Virginia rail	
Gallinulagaleata	common gallinule	
Fulicaamericana	American coot	

Scientific name	Common Name	Special Status
Order Charadriiformes	**Shorebirds, Gulls, Auks, and Allies**	
Family Charadriidae	**Plover**	
Charadriusvociferus	killdeer	
Family Laridae	**Gulls, Terns, and Skimmers**	
Larusoccidentalis	western gull	
Order Columbiformes	**Pigeons and Doves**	
Family Columbidae	**Pigeons and Doves**	
Columba livia	rock pigeon	I
Zenaidamacroura	mourning dove	
Order Cuculiformes	**Cuckoos and Allies**	
Family Cuculidae	**Cuckoos and Roadrunners**	
Geococcyxcalifornianus	greater roadrunner	
Order Strigiformes	**Owls**	
Family Tytonidae	**Barn Owls**	
Tyto alba	barn owl	
Order Caprimulgiformes	**Goatsuckers and Allies**	
Family Caprimulgidae	**Goatsuckers**	
Chordeilesacutipennis	lesser nighthawk	
Order Apodiformes	**Swifts and Hummingbirds**	
Family Apodidae	**Swifts**	
Aeronautessaxatalis	white-throated swift	
Family Trochilidae	**Hummingbirds**	
Calypteanna	Anna's hummingbird	
Calypte costae	Costa's hummingbird	
Selasphorussasin	Allen's hummingbird	
Order Piciformes	**Woodpeckers and Allies**	
Family Picidae	**Woodpeckers**	
Melanerpesformicivorus	acorn woodpecker	
Picoidesnuttallii	Nuttall's woodpecker	
Picoidespubescens	downy woodpecker	
Colaptesauratus	northern flicker	
Order Passeriformes	**Perching Birds**	
Family Tyrannidae	**Tyrant Flycatchers**	
Contopuscooperi	olive-sided flycatcher	SSC
Empidonaxtrailliibrewsteri	little willow flycatcher	SE
Empidonaxtrailliiextimus	southwestern willow flycatcher	FE, SE
Empidonaxdifficilis	Pacific-slope flycatcher	
Sayornisnigricans	black phoebe	
Sayornissaya	Say's phoebe	

Scientific name	Common Name	Special Status
Myiarchuscinerascens	ash-throated flycatcher	
Tyrannusvociferans	Cassin's kingbird	
Tyrannusverticalis	western kingbird	
Family Vireonidae	**Vireos**	
Vireo belliipusillus	least Bell's vireo	SE, FE
Vireo huttoni	Hutton's vireo	
Family Corvidae	**Crows and Jays**	
Aphelocomacalifornica	western scrub-jay	
Corvusbrachyrhynchos	American crow	
Corvuscorax	common raven	
Family Alaudidae	**Larks**	
Eremophilaalpestrisactia	California horned lark	WL
Family Hirundinidae	**Swallows**	
Tachycineta bicolor	tree swallow	
Stelgidopteryxserripennis	northern rough-winged swallow	
Hirundopyrrhonota	cliff swallow	
Family Aegithalidae	**Bushtits**	
Psaltriparusminimus	bushtit	
Family Troglodytidae	**Wrens**	
Campylorhynchusbrunneicapilluscousei	coastal cactus wren	SSC*
Salpinctesobsoletus	rock wren	
Thryomanesbewickii	Bewick's wren	
Troglodytes aedon	house wren	
Cistothoruspalustrisclarkae	Clark’s marsh wren	SSC
Family Sylviidae	**Gnatcatchers**	
Polioptilacaerulea	blue-gray gnatcatcher	
Polioptilacalifornicacalifornica	coastal California gnatcatcher	FT, SSC
Family Turdidae	**Thrushes**	
Sialiamexicana	western bluebird	
Catharusguttatus	hermit thrush	
Family Timaliidae	**Babblers**	
Chamaeafasciata	wrentit	
Family Mimidae	**Mockingbirds and Thrashers**	
Mimuspolyglottos	northern mockingbird	
Toxostomaredivivum	California thrasher	
Family Sturnidae	**Starlings**	
Sturnus vulgaris	European starling	I

Scientific name	Common Name	Special Status
Family Ptilogonatidae	**Silky-flycatchers**	
Phainopeplanitens	phainopepla	
FamilyParulidae	**Wood-Warblers**	
Vermivoracelata	orange-crowned warbler	
Dendroicapetechiabrewsteri	yellow warbler	SSC*
Geothlypistrichas	common yellowthroat	
Wilsoniapusilla	Wilson's warbler	
Icteriavirens	yellow-breasted chat	SSC
Family Emberizidae	**Embrezids**	
Pipilomaculatus	spotted towhee	
Pipilocrissalis	California towhee	
Aimophilaruficepscanescens	southern California rufous-crowned sparrow	WL
Ammodramussavannarum	grasshopper sparrow	SSC
Zonotrichialeucophrys	white-crowned sparrow	
Family Cardinalidae	**Cardinals and Allies**	
Pheucticusmelanocephalus	black-headed grosbeak	
Passerinacaerulea	blue grosbeak	
Family Icteridae	**Blackbirds**	
Agelaiusphoeniceus	red-winged blackbird	
Sturnellaneglecta	western meadowlark	
Euphaguscyanocephalus	Brewer's blackbird	
Molothrusater	brown-headed cowbird	
Icterus cucullatus	hooded oriole	
Icterus bullockii	Bullock's oriole	
Family Fringillidae	**Fringilline and Cardueline Finches and Allies**	
Carpodacusmexicanus	house finch	
Carduelispsaltria	lesser goldfinch	
Carduelislawrencei	Lawrence's goldfinch	
Carduelistristis	American goldfinch	

I= Introduced Species
X= Extirpated
*=species with extremely limited distributions
FE= Federally Endangered
FT= Federally Threatened

SE= State Endangered
ST= State Threatened
SSC= CDFWSpecies of Special Concern
WL= CDFWList of Taxa to Watch
FP= CDFWFully Protected

APPENDIX J – QUINO CHECKERSPOT BUTTERFLY REPORT

2014
TIE-LINE 649 WOOD TO STEEL POLE REPLACEMENT PROJECT QUINO CHECKERSPOT BUTTERFLY SURVEY RESULTS 45-DAY REPORT

Prepared for:

UNITED STATES FISH AND WILDLIFE SERVICE
Attn: Stacey Love
Recovery Permit Coordinator
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May 2015

TL649
QUINO CHECKERSPOT BUTTERFLY SURVEY RESULTS 45-DAY REPORT BIOLOGIST SIGNATURE PAGE

May 2015

The undersigned certify this report to be a complete and accurate account of the findings and conclusions of focused surveys for Quino Checkerspot Butterfly conducted in May 2015, within suitable habitat on the San Diego Gas & Electric Tie-line 649 Project, San Diego County, California.

Kris Alberts

Kris Alberts
Principal Biologist
Blackhawk Environmental
USFWS Permit TE039640-3

Travis Cooper
Principal Biologist
Cooper Biological
USFWS Permit TE170389-5

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SECTION 1.0 – INTRODUCTION

Blackhawk Environmental Inc. Principal Biologist Kris Alberts (TE039640-3) and Cooper Biological Principal Biologist Travis Cooper (TE170389-5) conducted protocol Quino checkerspot butterfly (QCB; *Euphydryas editha quino*) surveys at the proposed San Diego Gas & Electric (SDG&E) Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Project). This report includes Project location & description, methods, results, discussion & conclusion sections.

1.1 PROJECT LOCATION AND DESCRIPTION

SDG&E proposes the Tie Line (TL) 649 Wood-to-Steel Pole Replacement Project (Proposed Project or Project) in an effort to fire-harden existing facilities in SDG&E's service territory. SDG&E proposes to replace wood poles with steel poles along approximately seven miles of the existing 69-kilovolt (kV) single-circuit power line. This segment of the Proposed Project is located in the cities of San Diego and Chula Vista, California (State), as well as unincorporated San Diego County (County). The Proposed Project extends east from Black Coral Way and Sea Lavender Way in the City of San Diego for approximately five miles; then travels south for approximately two miles to just north of Otay Mesa Road in unincorporated San Diego County. Over this distance, the Project traverses private and public lands, including lands owned by the County of San Diego, the City of San Diego, the City of Chula Vista, the State of California, and SDG&E. Installation of steel poles will minimize damages to utilities in the event of a fire, thereby increasing system reliability, decreasing routine maintenance needs, and increasing the life span of both the poles and the entire power line.

Specifically, SDG&E proposes to conduct the following activities as part of the Proposed Project:

- Remove approximately 132 existing wood power line and interset distribution line poles and replace them with approximately 117 galvanized steel structures. Of the 117 replacement structures, approximately 21 poles will require a pier foundation, approximately seven will require a micropile foundation, and the remaining 89 will be directly buried;
- Conduct overhead work on approximately two existing power line poles and approximately one existing distribution line pole;
- Convert approximately 430 feet of underground power line cable under State Route (SR) 125 to an overhead configuration;
- Transfer existing 69 kV power line conductors to the new steel poles;
- Transfer approximately 1.5 miles of existing distribution conductors and replace approximately 3.9 miles of distribution conductors with new aluminum conductor steel-reinforced distribution conductors.

SDG&E will utilize approximately 28 stringing sites, two temporary guard structures, and two staging areas during construction of the Proposed Project. The Proposed Project is consistent with SDG&E's efforts to improve reliability in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line according to the existing vegetation and fuel conditions, the history of high-speed winds in the area, and the age and condition of the existing facilities as part of an overall strategy to strengthen power lines for improved system reliability. SDG&E periodically reviews and updates the prioritization of these poles for replacement based on changes in field conditions, such as increases in the density of vegetation (fire fuel) surrounding existing poles. The Proposed Project incorporates updated design standards to reduce fire risks and will implement a Project-specific fire plan to minimize fire risks during construction. Attachment A contains the TL 649 Figures (QCB Survey Mapbook).

SECTION 2.0 – METHODS

Blackhawk Environmental Principal Biologist Kris Alberts (KA) conducted the QCB assessment and the majority of the surveys, as well as mapping of the host plant patches and nectar source documentation for this Project. Travis Cooper (TC) also led three surveys, and Chambers Group Staff Biologist Ian Maunsell mapped some host plant patches with oversight from Mr. Alberts. Both Mr. Alberts and Mr. Cooper were accompanied occasionally by Ian Maunsell (IM), Seth Reimers (SR), Corrine Klein (CK) and/or Ryan Meszaros (RM) (Table 1). All surveys were conducted under the terms and conditions specified within Mr. Alberts' United States Fish & Wildlife Service (USFWS) Permit TE039640-3 and Mr. Cooper's USFWS Permit TE170389-5. Survey methods followed the condition parameters of the latest USFWS QCB protocol (December 15, 2014).

In order to select QCB-suitable habitats to be surveyed, a site assessment was completed on February 16, 2015. The assessment was based on SDG&E's QCB Habitat Conservation Plan (HCP). The assessment resulted in areas along the Project that would be excluded from QCB surveys and areas that would be included for QCB surveys. The assessments followed the definitions of suitable and unsuitable QCB habitats within SDG&E's QCB HCP, which are as follows:

> "Suitable QCB Habitat is defined in this First Amendment as shrub communities, such as coastal sage scrub, chaparral and desert scrub, with 50 percent shrub cover or less, and the potential to support dot-seed plantain and other larval host plants. Areas that meet the shrub cover standard are excluded if the ground cover vegetation is disturbed and/or covered by understory vegetation to the extent that larval host plants do not grow. Areas of solid rock substrate are also excluded.
>
> The term "Potential Habitat" in the 2000 Recon Report has been changed in this First Amendment and in the 2004 Recon Report to "Suitable QCB Habitat" as further defined as follows:
>
>> All areas of vernal pool complexes were included as Suitable QCB Habitat regardless of upland vegetation surrounding the vernal pools. Areas mapped as Suitable QCB Habitat include shrub communities such as coastal sage scrub, chaparral and desert scrub with 50 percent shrub cover or less and the potential to support dot-seed plantain and other larval host plants.
>>
>> Areas that met the shrub cover standard were excluded if the ground cover vegetation was disturbed and covered by non-native grasses to the extent that larval host plants could not grow. Areas of solid rock substrate were also excluded. Areas meeting the 50 percent shrub cover with QCB Host Plants, native herbaceous species, cryptobiotic crusts, or the potential to support any of these elements was included as Suitable QCB Habitat.
>>
>> Also included in Suitable QCB Habitat were all native grasslands and non-native grasslands that showed evidence of potential to support larval host plants. Evidence for support included presence of native grasses, native wildflowers and cryptobiotic crusts. Non-native grasslands that are repeatedly disturbed and did not show evidence of potential for larval host plants were not included.

> Unoccupied QCB Habitat are those areas outside of the Mapped Areas as depicted in Figures 1 and 2 and those portions of the Mapped Areas that do not represent Suitable QCB Habitat."

Following the assessment, the Survey Area was divided into three sections, with each section surveyed on separate days. Section 1 extended from Location 103 to Location 82 (parallel to the west side of the Richard J. Donovan Correctional Facility grounds); Section 2 extended from Location 82 to Location 70 (access roads and main north-south/east-west tangent area); and, Section 3 extended from Location 70 to Location 18 (south side of the Otay River valley). Section 1 contained 24.40 acres of included QCB survey habitat within 47.57 total acres; Section 2 contained 20.27 acres of included QCB survey habitat within 25.86 total acres; and Section 3 contained 22.99 acres of included QCB survey habitat within 142.20 total acres.

The first survey on February 17, 2015 included a search of the open patches between shrubs and other open areas for the potential presence of larval host plants, as well as nectar sources (Attachment B). Subsequent surveys further refined and added additional host plant patches and nectar sources throughout the range of the survey period. All host plant patches were mapped using a submetric Trimble Global Positioning System (GPS) unit or directly onto high-resolution aerial maps for follow-up Geographic Information System (GIS) translation. Host plant patches were characterized as low, moderate or high density as appropriate. Low density patches generally contained 10 or fewer individual host plants per square meter; moderate density patches generally contained 10-100 individual host plants per square meter; and high density patches generally contained 100 or more individual host plants per square meter.

QCB surveys were conducted during favorable weather conditions in late morning/early afternoon hours as shown in Table 1. A total of 12 surveys were completed for each section, resulting in 36 surveys overall. The surveys were performed by carefully walking slowly through and adjacent to QCB-suitable habitats while looking for QCB adults; care was taken on each step to examine the ground before setting foot in order to minimize or avoid the chance of accidentally stepping on larvae. Surveying biologists looked for QCB presence throughout the duration of each survey, using binoculars and/or the naked eye, as appropriate. The biologists also noted all other butterfly species present. All QCB-relevant data and butterfly species were recorded in the field notes of the biologists for inclusion in this report (Attachment D). Survey conditions are presented in Table 1.

Table 1: Survey Conditions

Date	Section	Personnel	Start/End Times	Start/End Temperature (F°)	Start/End Wind Speed (mph)	Start/End Cloud Cover (%)	Start/End Precipitation
2/17/15	3	KA	0940-1550	62/68	1-3/1-6	40/0	none
2/19/15	1	KA, IM	0850-1530	64/72	0-3/2-8	50/90	none
2/20/15	2	KA, IM	0950-1245	67/73	1-3/0-1	90/95	none
2/24/15	1	TC, IM	1015-1250	66/68	4-7/6-12	0/0	none
2/24/15	2	KA	1015-1530	63/71	3-6/3-7	0/0	none
2/26/15	3	KA	0945-1545	63/69	0-1/1-3	50/20	none
3/4/15	1	TC	0840-1240	61/70	3-6/4-7	0/0	none
3/4/15	2	KA	1130-1530	74/72	1-3/1-3	0/0	none
3/6/15	3	KA	0940-1515	67/81	0-1/1-4	0/0	none
3/9/15	1	KA	1005-1455	60/67	0-2/3-9	20/3	none

Table 1: Survey Conditions

Date	Section	Personnel	Start/End Times	Start/End Temperature (F°)	Start/End Wind Speed (mph)	Start/End Cloud Cover (%)	Start/End Precipitation
3/10/15	3	KA	1005-1530	65/77	0-1/2-8	2/80	none
3/11/15	2	KA	1200-1545	79/79	0-1/0-2	98/99	none
3/16/15	1	KA	1005-1500	80/91	1-4/4-13	50/70	none
3/18/15	2	KA, IM	1000-1430	71/77	1-3/1-4	20/95	none
3/19/15	3	KA	1015-1530	70/75	1-3/3-13	15/10	none
3/26/15	1	KA	0915-1445	74/92	1-4/2-11	0/0	none
3/27/15	2	KA	0930-1230	76/91	0-2/0-4	0/0	none
3/28/15	3	KA	0940-1410	70/83	0-2/2-10	0/0	none
3/30/15	1	KA	0950/1450	68/79	1-4/2-8	20/0	none
3/31/15	2	KA	1030-1425	68/80	1-4/1-3	20/30	none
4/2/15	3	KA	1045-1505	68/75	1-4/2-7	20/50	none
4/6/15	1	KA, SR	0950-1420	64/69	6-9/2-12	60/80	none
4/8/15	2	KA	1120-1500	64/68	0-3/1-6	10/0	none
4/9/15	3	KA, SR	1000-1445	65/78	1-4/1-6	0/3	none
4/13/15	1	KA, CK	0950-1520	69/77	1-3/4-10	0/0	none
4/15/15	2	KA	1020-1405	72/78	0-2/3-8	0/0	none
4/17/15	3	KA	1000-1450	74/78	2-6/2-9	5/0	none
4/20/15	1	KA	1000-1445	69/73	1-3/3-11	10/3	none
4/21/15	2	KA	1035-1420	71/74	1-3/1-6	85/60	none
4/26/15	3	KA	1100-1500	69/78	0-2/1-6	75/35	none
4/27/15	1	KA	1015-1530	75/87	2-6/2-11	5/0	none
4/28/15	2	KA, IM	0900-1205	80/93	0/1-4	0/0	none
4/29/15	3	KA, CK, RM	0930-1500	77/93	0-3/2-11	5/5	none
5/4/15	1	KA	1050-1445	70/71	1-6/7-15	98/95	none
5/5/15	2	KA	1150-1500	73/76	1-5/2-7	60/70	none
5/10/15	3	TC	1005-1400	70/76	1-6/3-8	0/0	none

SECTION 3.0 – RESULTS

Although a number of low, moderate and high density host plant patches were identified and mapped, and QCB presence is well-documented within 5 miles of the Project, no QCB adults or larvae were observed during these surveys. Up to 132 potentially suitable nectar sources were found throughout and adjacent to the Survey Area within the SDG&E ROW (Attachment B). Since the survey duration extended from late winter through late spring, butterfly diversity, species compositions and numbers expectedly varied over time, and a total of 31 species were observed throughout the surveys (Attachment C). The following sub-sections include detailed results for surveyed vegetation communities, host plant patches and butterflies observed.

3.1 VEGETATION COMMUNITIES

Vegetation communities within QCB survey-included portions of the Survey Area included San Diego mesa claypan vernal pool native grassland mix, disturbed vernal pool, meadow/seeps, California sagebrush-California buckwheat scrub, disturbed California sagebrush-California buckwheat scrub, California buckwheat scrub, coast prickly pear scrub, chamise-Munz's sage chaparral, purple needlegrass grassland, annual brome grassland, pale spike rush marshes, bareground and disturbed areas (i.e., dirt roadways).

Since the dirt access roads are graded regularly and devoid of larval host plant patches, they are not suitable for QCB larval stages; however, the roads may serve in a very limited capacity as basking or resting habitat for QCB individuals that may fly in from adjacent areas.

Dominant shrub species in the Survey Area included California buckwheat (Eriogonum fasciculatum), lemonade berry (*Rhus integrifolia*) and California sagebrush (*Artemisia californica*). Sub-dominant to occasional shrub species included San Diego County viguiera (*Bahiopsis laciniata*), laurel sumac (*Malosma laurina*), jojoba (*Simmondsia chinensis*), Munz's sage (*Salvia munzii*), white sage (*Salvia apiana*) and other species.

Within these vegetation communities, survey efforts were focused on areas that were not 100 percent covered by shrubs and/or grasses. In other words, survey efforts were focused on the more open or relatively open portions of the overall vegetation communities, including cryptobiotic crusts, bulb and wildflower patches, seeps and other landscape anomalies, while also scanning the surrounding areas for QCB. This approach followed SDG&E's QCB HCP. Surveyed vegetation communities are described as follows:

3.1.1 San Diego Mesa Claypan Vernal Pool Native Grassland Mix

In San Diego County, vernal pools, specifically San Diego mesa claypan vernal pools, are considered sensitive. According to the SDG&E Subregional Natural Community Conservation Plan (NCCP) vegetation classification, soils in this community are finer textured and grayer than the hardpan vernal pool and are typically surrounded by hummocks called mima mounds in grassland habitat. Within the Survey Area, vernal pool obligate indicator species included woolly marbles (*Psilocarphus brevissimus*) and San Diego button celery (*Eryngium aristulatum* var. *parishii*). This community was primarily observed occurring within a larger mima mound complex immediately west of locations 96 through 82. Additional wetland-associated species observed within the Survey Area commonly found in vernal pools included popcornflower (*Plagiobothrys* spp.) and toad rush (*Juncus bufonious*). However, due to sustained droughts within southern California during the survey period and previous seasons, this community is now more characterized by upland annuals. Many of the typical vernal pool annual species were found in low numbers or not at all. Based on topography, this vegetation type is expected to occur within many of the claypan depressions interspersed between mima mounds in this area of the Project. Additional species observed in this community included non-native brome grasses (*Bromus* spp.), native needlegrass (*Stipa* spp.), and minor shrubs such as the CRPR List 2 decumbent goldenbush (*Isocoma menziesii* var. *decumbens*).

3.1.2 Disturbed vernal pool

The SDG&E NCCP habitat description of vernal pools typically includes natural areas where mima mounds or other depressions collect water and support vernal pool indicator species. Previous human disturbances within the Project included construction of roads, off-highway vehicle (OHV) use, fill and recreation, resulting in disturbed or atypical vegetation being present within vernal pool habitats. Disturbed vernal pools are characterized by at least one vernal pool indicator species occurring within disturbed areas. Within the Project, disturbed vernal pool habitat occurs on previously constructed and bladed dirt roads where senesced wooly marbles were prevalent in apparent claypan soils, and signs of hydrology, such as soil cracks, were present. This community can be differentiated from the San Diego mesa claypan vernal pools described above by areas largely devoid of upland vegetation during the dry season.

3.1.3 Meadow/seeps

Meadow/seeps, a SDG&E NCCP-vegetation classification, include annual and perennial herbs, wildflowers and bulbs, such as mariposa lily (*Calochortus* spp.), lupine (*Lupinus* spp.), and blue dicks (*Dichelostemma capitatum*). Where meadow/seeps occur, groundwater pressure ensures that the surface soils stay moist for longer than the surrounding vegetation. Vegetation may also include rushes (*Carex* spp.) and spike rushes (*Eleocharis* spp.) as well as other plant species associated with wet areas. Meadow-seep habitat within the Survey Area is largely disturbed and can be further characterized by dominant species including curly dock (*Rumex crispus*), slender creeping spike-rush (*Eleocharis montevidensis*), and non-native brome grasses such as ripgut brome.

3.1.4 California sagebrush-California buckwheat scrub (*Artemisia californica-Eriogonum fasiculatum* Shrubland Alliance)

California sagebrush-California buckwheat scrub is dominated equally by California sagebrush and California buckwheat in the shrub canopy. Most shrubs are less than 2 meters (6.56 feet) in height. The canopy is two-tiered and intermittent to continuous with some shrubs (such as laurel sumac and lemonade berry) reaching up to 5 meters (49.2 feet) in height. An herbaceous layer is seasonally present. This community can be found on steep slopes that are typically south-facing, and soils are colluvial derived. Dominant plant species observed within the Survey Area included California sagebrush, coastal California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), toyon (*Heteromeles arbutifolia*), laurel sumac, black sage (*Salvia mellifera*), CRPR List 2B.2 Munz's sage, and CRPR List 4.2 San Diego County viguiera. This community is found in both restored (Dennery Canyon Open Space Reserve) and natural areas within the Survey Area.

3.1.5 Disturbed California sagebrush-California buckwheat scrub

Disturbed California sagebrush-California buckwheat scrub is similar to California sagebrush-California buckwheat scrub; however, shrub cover is typically reduced, and there is a noticeably higher percentage of non-native plant species, as well as evidence of human disturbances, such as OHV use and dumping.

3.1.6 California buckwheat scrub (*Eriogonum fasiculatum* Shrubland Alliance)

California buckwheat scrub is a dominated primarily by California buckwheat within a continuous to intermittent shrub canopy less than 2 meters (6.56 feet) in height. The herbaceous later is variable and may be grassy. This community can be found on upland slopes, intermittently flooded arroyos, channels and washes, but rarely on flooded low gradient deposits. Soils are coarse, well drained, and moderately acidic to slightly saline. Dominant plant species observed within the Survey Area included California sagebrush, coastal California buckwheat, toyon, laurel sumac, black sage, CRPR List 2B.2 Munz's sage, and CRPR List 2B.2 San Diego marsh elder (*Iva hayesiana*). A small portion of California buckwheat scrub occurred within the terraces of the dry wash and was similar in structure and composition to Riversidian Alluvial Fan Sage Scrub (RAFSS), a type of coastal sage scrub that occurs in large alluvial flood plains.

3.1.7 Chamise-Munz's sage chaparral (*Adenostoma fasiculatum-Salvia munzii* Shrubland Alliance)

Chamise-Munz's sage chaparral is dominated by both chamise and Munz's sage within a continuous to intermittent shrub canopy less than 3 meters (9.84 feet). The herbaceous layer is sparse. This community can be found on lower to upper slopes of all aspects, mostly commonly south-facing. Soils are shallow with loamy sand or sandy loam texture. Mapped areas are restoration sites. Dominant shrub species within this community observed within the Survey Area include; interspersed co-dominant chamise, Munz's sage, California sagebrush, California buckwheat, toyon, and spiny redberry.

3.1.8 Purple needlegrass grassland (*Stipa pulchra* Herbaceous Alliance)

Purple needlegrass grassland is dominated by or characteristically present in the herbaceous layer in an open to continuous herbaceous layer less than 1 meter (3.28 feet) in height. Emergent shrubs such as California sagebrush, California buckwheat, and some trees are present in low cover. Areas between native grasses and shrubs were dominated by non-native grasses. This community can be found on all topographic locations. Inland soils are deep with high clay content or shallow and rocky near the coast. Dominant plant species observed within the Survey Area included sand aster (*Corethrogyne filaginifolia*), long-stemmed buckwheat (*Eriogonum elongatum* var. *elongatum*), California buckwheat, and CRPR List 1B.2 decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), nodding needlegrass (*Stipa cernua*), small-flowered needlegrass (*S. lepida*), purple needlegrass (*S. pulchra*), ripgut brome (*Bromus diandrus*) and red brome (*B. madritensis*).

3.1.9 Annual brome grassland (*Bromus* [*diandrus, hordeaceus*] – *Brachypodium distachyon* Semi-Natural Herbaceous Stands)

Annual brome grassland is dominated by various brome grasses such as ripgut brome, soft chess (Bromus hordeceous), red brome (*Bromus madritensis* ssp. *rubens*) and false brome (*Brachypodium distachyon*). Emergent trees and shrubs may be present at low cover. Herbs are less than 75 centimeters within an intermittent to continuous herb layer. This community can be found in all topographic settings in foothills, waste places, rangelands and openings in woodlands. Dominant plant species observed on this within this community in the Project Area included several different non-native brome grass species, wild oat (*Avena* spp.), black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*) and shortpod mustard (*Hirschfeldia incana*).

3.1.10 Coast prickly pear scrub (*Opuntia littoralis* Shrubland Alliance)

Coast prickly pear scrub is dominated by coast prickly pear and/or other cacti in an intermittent or continuous two tiered shrub canopy less than 2 meters (6.56 feet) in height. Emergent shrubs such as laurel sumac, lemonade berry, blue elderberry (*Sambucus nigra* ssp. *cerulea*) and Peruvian peppertree (*Schinus molle*) may be present in low cover. The herbaceous layer is open to continuous and diverse. This habitat can be found on south-facing slopes and headlands. Soils are shallow loams and clays and often times rocky. Dominant plant species observed within this habitat in the Project Area included California sagebrush, coastal California buckwheat, coast cholla (*Cylindropuntia prolifera*), jojoba (*Simmondsia chinensis*), CRPR List 2B.2 golden-spined cereus (*Bergerocactus emoryi*), CRPR List 2B.1 San Diego barrel cactus (*Ferocactus viridescens*), shiny-leaf yerba santa (*Eriodictyon trichocalyx* var. *trichocalyx*), laurel sumac and coast prickly pear (*Opuntia littoralis*). This community is found in both restored (Dennery Canyon Open Space Reserve) and natural areas within the Survey Area.

3.1.11 Pale spike rush marshes (*Eleocharis macrostachya* Herbaceous Alliance)

Pale spike rush marshes are dominated in an open to continuous herbaceous layer less than 1 meter (3.28 feet). This community can be found within lakeshores, streambeds, swales, vernal pools, pastures, ditches, and natural and artificial ponds. Soils are alluvial, often highly organic and flooded part of the growing season with alkaline, brackish or fresh water. Within the Survey Area, the dominant spike rush species is slender creeping spike-rush (*Eleocharis montevidensis*). This community is largely disturbed and can be further characterized by dominant species including curly dock and non-native brome grasses such as ripgut brome.

3.1.12 Bareground

Bareground includes exposed soils, rocky substrates, access roads and other areas devoid of plant cover. Areas within the Survey Area considered as bareground include existing dirt access roads and previously graded areas. The majority of vernal pools and/or road ruts within the Survey Area occurs within bareground (access roads) on the eastern portion of the Survey Area, east of CA-125.

3.1.13 Disturbed Areas

Disturbed Areas, a SDG&E NCCP vegetation community, may be nearly devoid of vegetation due to clearing or grading. Such areas are dominated by pioneering herbaceous species that readily colonize disturbed soils, such as tocalote (*Centaura melitensis*), wild oat, black mustard, prickly sow-thistle (*Sonchus asper*) and wild lettuce (*Lactuca serriola*). Areas characterized by disturbed habitat have negligible ecological value and, within the Survey Area, are primarily dominated by various combinations of ripgut brome, red brome, prickly Russian thistle (*Salsola tragus*), slender wild oat (*Avena fatua*), tocalote, redstem stork's bill (*Erodium cicutarium*), lambsquarters (*Chenopodium album*) and hairy crabgrass (*Digitaria sanguinalis*). Scattered individuals or remnants of native coastal sage scrub species may occur, including California buckwheat, California sagebrush and deerweed (*Acmispon glaber*).

3.2 HOST PLANT PATCHES

As described in the Methods section, host plant patches within the Survey Area were mapped as low, moderate or high density. The most prevalent host plant species was dot-seed plantain (Plantago erecta), and the only other observed host plant species purple was purple owl's clover (Castilleja exserta). Approximately 99% of the host plants overall were dot-seed plantain, with owl's clover composing a relatively insignificant 1% of the overall host plant population. As such, the vast majority of the patches were exclusively of dot-seed plantain, with only a few containing intermixed purple owl's clover.

All of the host plant patches were mapped between Locations 99 and 63, with the majority of the patches in the San Diego mesa claypan vernal pool native grassland mix between Locations 99 and 82 and the coastal sage scrub-associated communities between Locations 82 and 69. The largest mapped patches were of moderate and high densities adjacent to the dirt roads between Locations 69 and 74, along the south side of the Otay River valley (Attachment A).

As the season progressed, and as subsequent rain events affected host plant germination chronologies and growth rates, the earlier surveys often exhibited varying stages of larval host plant growth. These earlier surveys often included newer seedlings intermixed with taller individuals as well as flowering individuals. However, by the 7th survey pass, almost all of the dot-seed plantain had senesced, and by the 9th survey, so too had the purple owl's clover.

3.3 SUMMARY OF OBSERVED BUTTERFLIES

A total of 31 butterfly species were observed over the course of these surveys (Attachment C). The most commonly observed species included the checkered white (*Pontia protodice*) throughout the Survey Area mostly during the last half of the surveys, California ringlet (*Coenonympha tulli*a) over the first half of the surveys (particularly in section 3), Behr's metalmark (*Apodemia virgulti*) and painted lady (*Vanessa cardui*) (particularly during the earlier to middle surveys). All other species were observed in smaller numbers with observations that also varied by season.

The only sensitive butterfly species observed was Thorne's hairstreak (*Callophyrs thornei*). This species is considered sensitive by the Bureau of Land Management (BLM). One individual was observed early in the survey period in the Tecate cypress woodland near Location 77.

No QCB were observed.

SECTION 4.0 – DISCUSSION & CONCLUSION

Throughout the range of the species, very few QCB were observed during the 2014 and 2015 QCB adult flight seasons, and surveys were negative for QCB on this Project in 2015. It is worth mentioning that California is in a prolonged drought, and the drought, combined with other variables (e.g., the spread of invasive plant species, habitat loss and degradation, wildfire, predation, source sink dynamics, etc.) may be having an adverse effect on the population and distribution of this species. However, since several areas within 5 miles of the Project are known to have had QCB present in recent years, it is possible that this species may become present in future years through dispersal and re-colonization from such nearby areas.

ATTACHMENT A – FIGURES

Figure 1

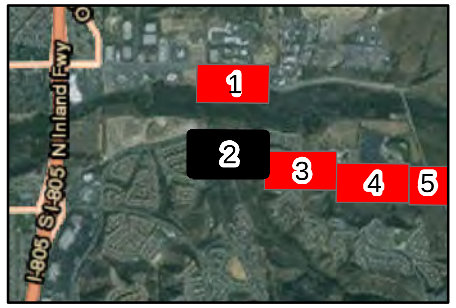
TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

CHAMBERS GROUP

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓗ Pole Top Work Only
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ⬚ Survey Buffer
- ▨ String Site
- ▭ Turnaround Area



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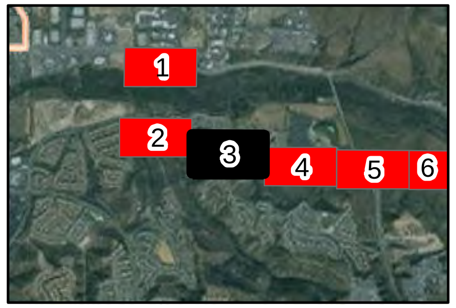
Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓔ Existing Pole
- \- - Existing Non-TCM Access Road
- \- - Access Road
- ⬚ Survey Buffer
- ▨ String Site



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Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▭ Survey Buffer

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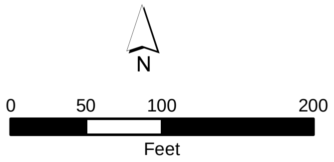
Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- H Pole Top Work Only
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ✚ Guard Structures
- ▨ String Site
- ▭ Turnaround Area
- ▭ EMS Quino Mapped Area
- ▭ QCB Unsuitable Habitat



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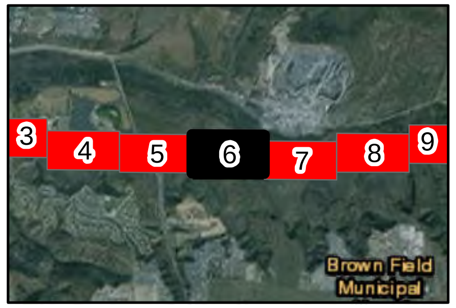
- Ⓔ Existing Pole
- ▨ String Site
- ▭ Turnaround Area
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat
- - - Existing Non-TCM Access Road
- - - Access Road
- ⬚ Survey Buffer



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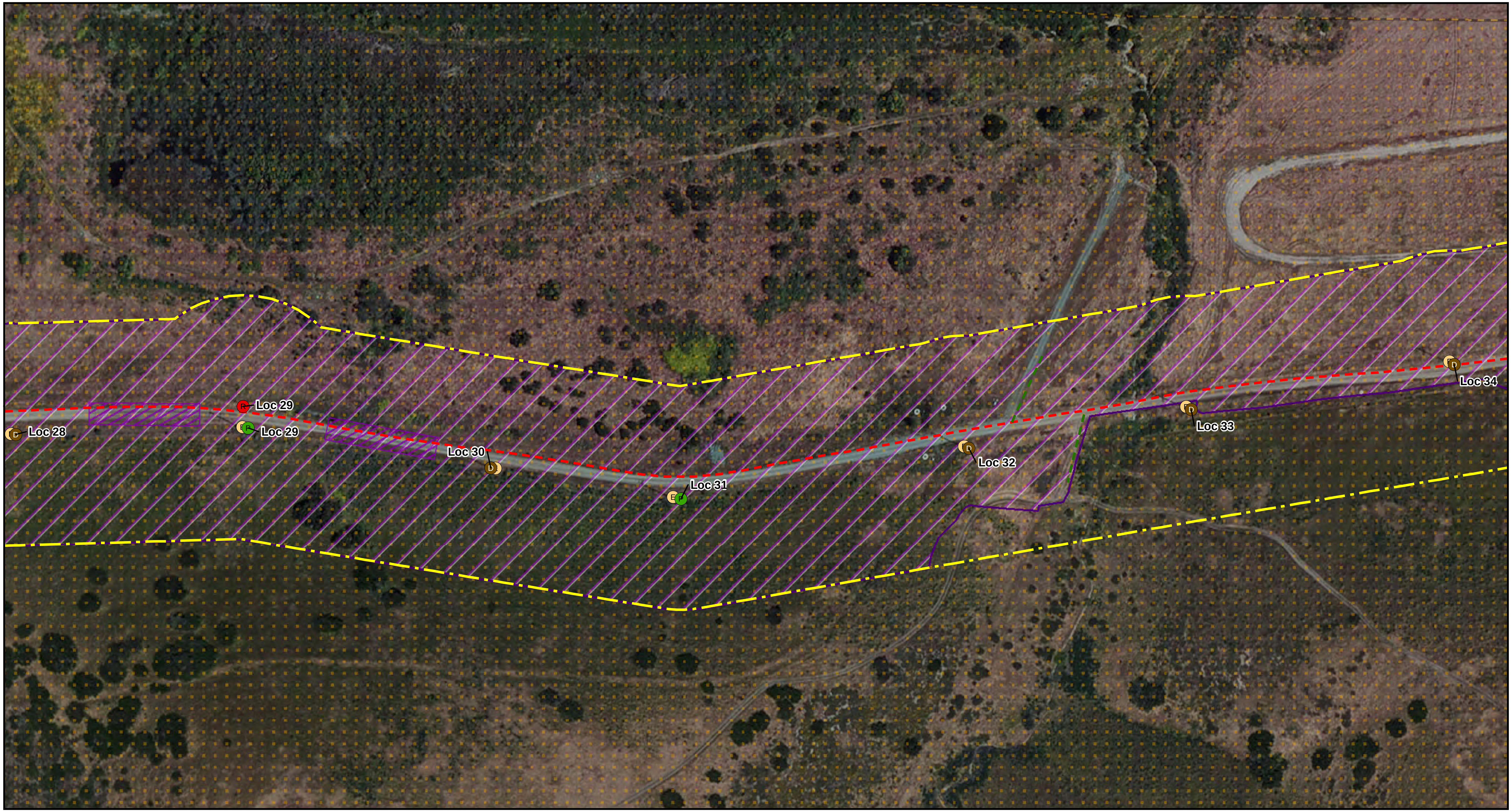

Legend

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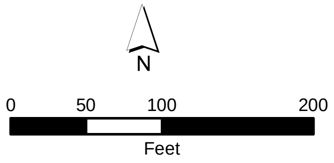
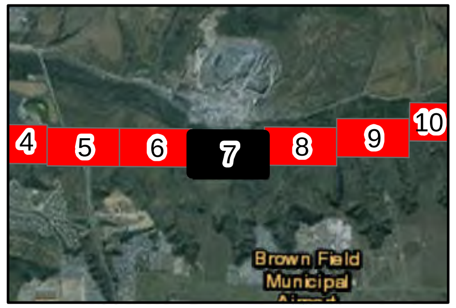
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- ▨ EMS Quino Mapped Area
- ☐ QCB Unsuitable Habitat





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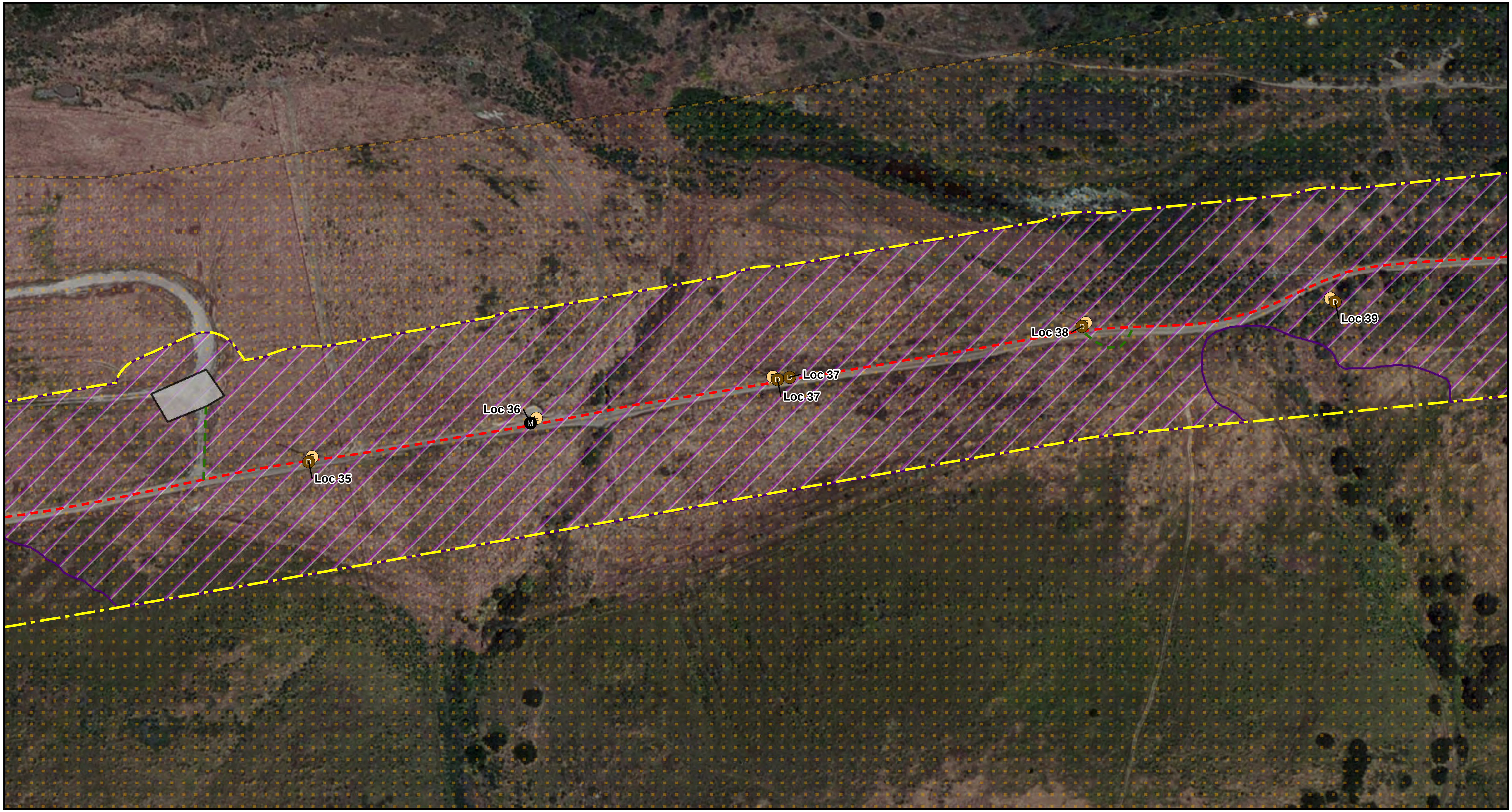

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓜ Micro Pile Foundation Steel Pole
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ⬚ Survey Buffer
- ▭ Turnaround Area
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

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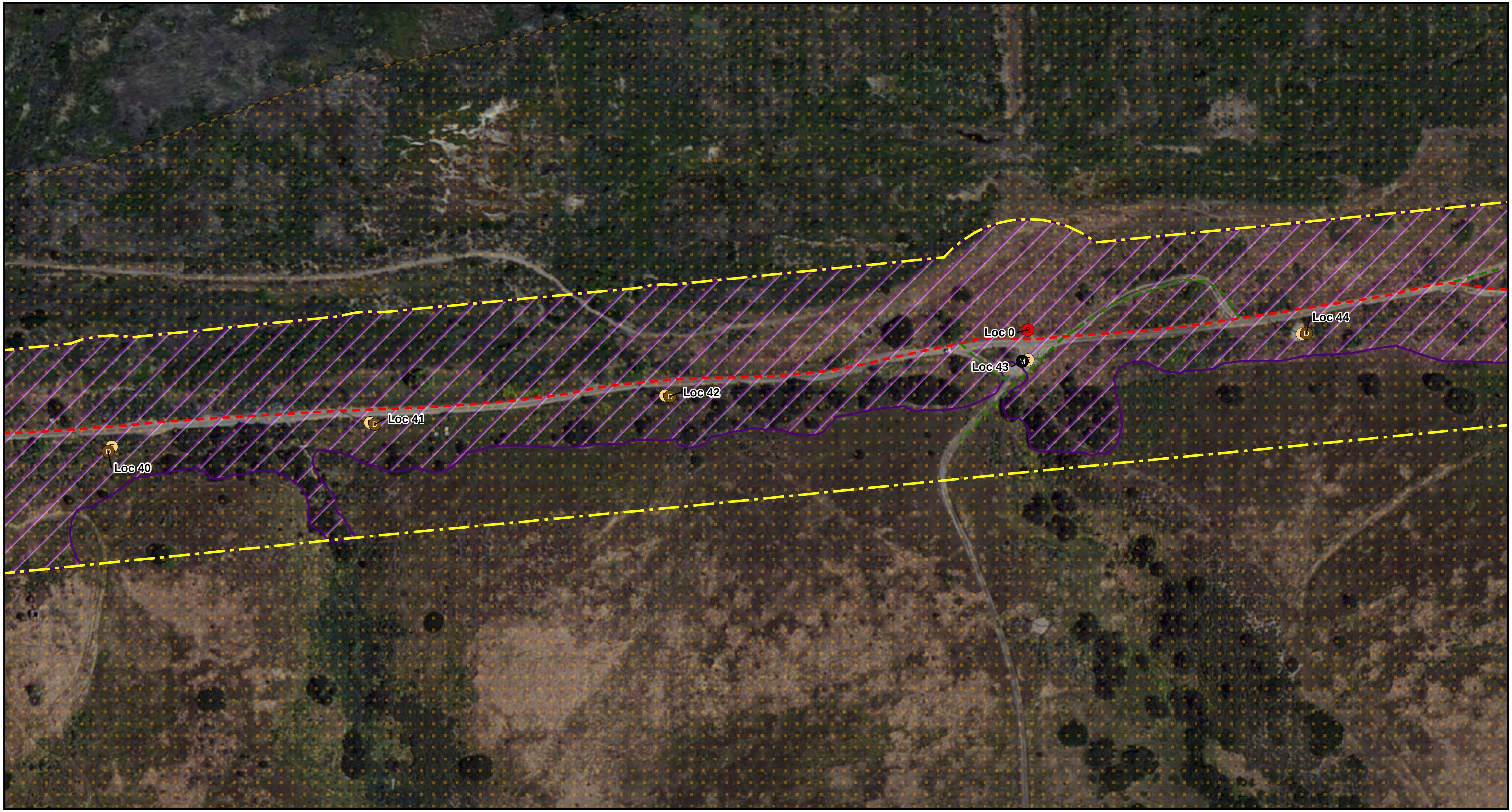
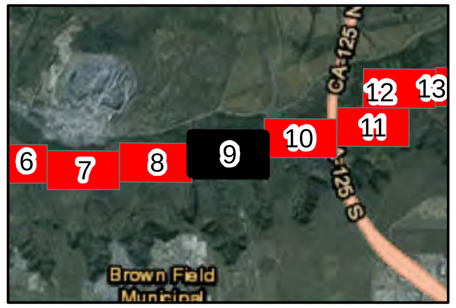


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓜ Micro Pile Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- -- Existing Non-TCM Access Road
- -- Access Road
- ⌜⌝ Survey Buffer
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

N

0 50 100 200
Feet



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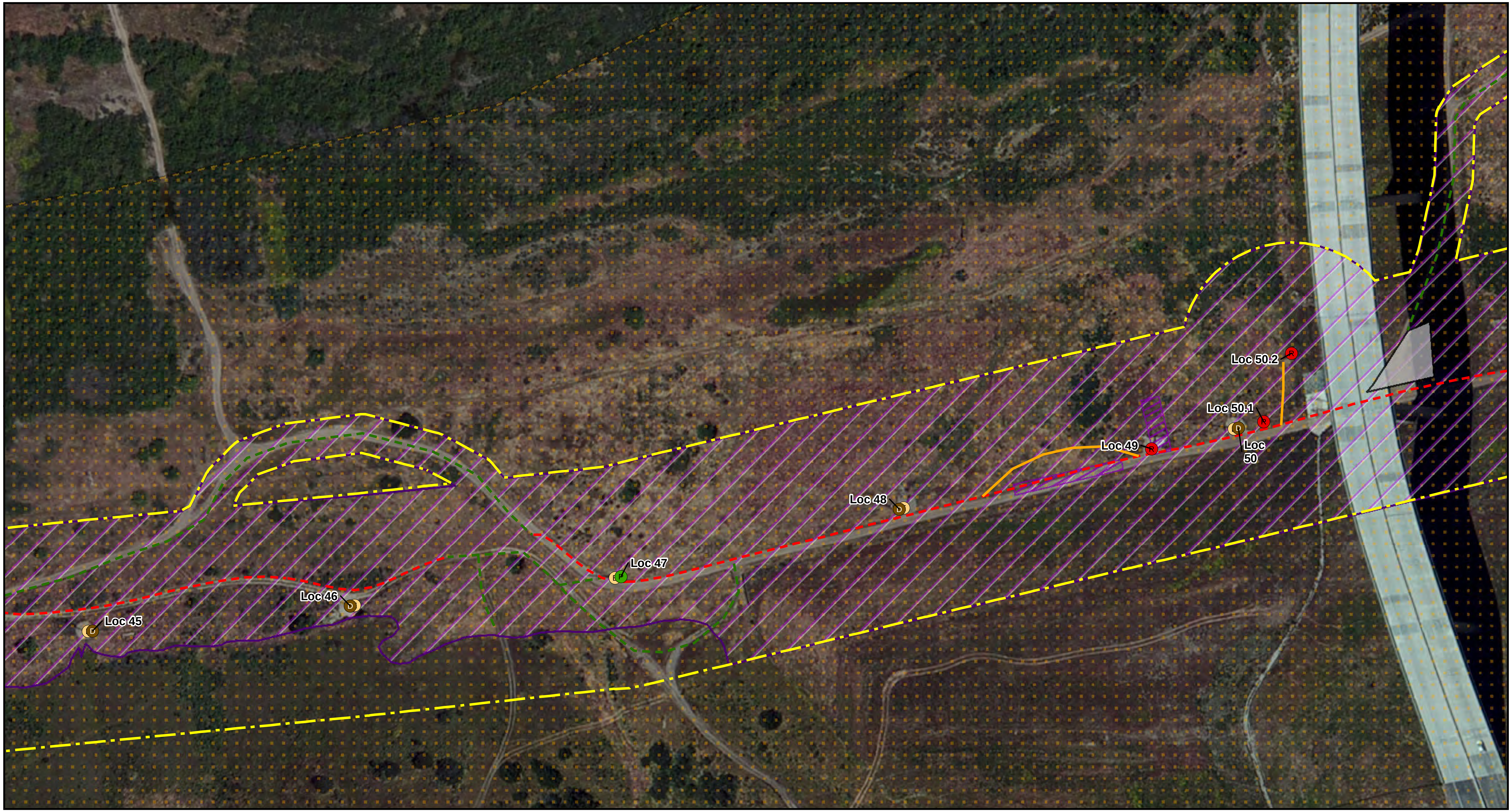
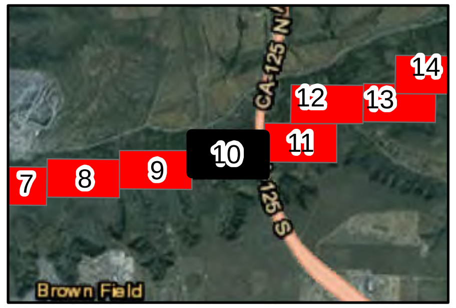


Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- ▨ String Site
- Turnaround Area
- EMS Quino Mapped Area
- QCB Unsuitable Habitat



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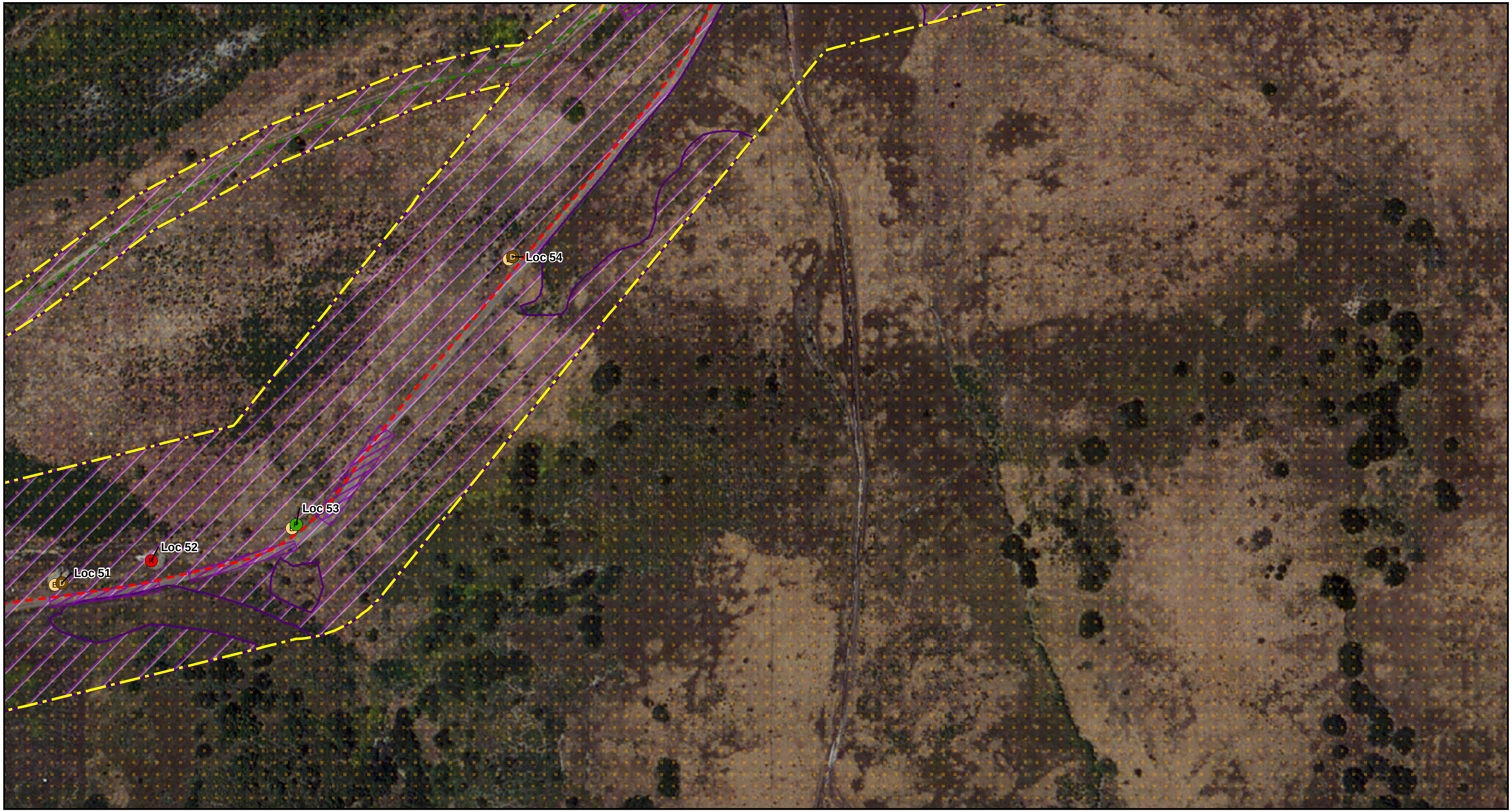

Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- — Overland Travel
- ▭ Survey Buffer
- ▨ String Site
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

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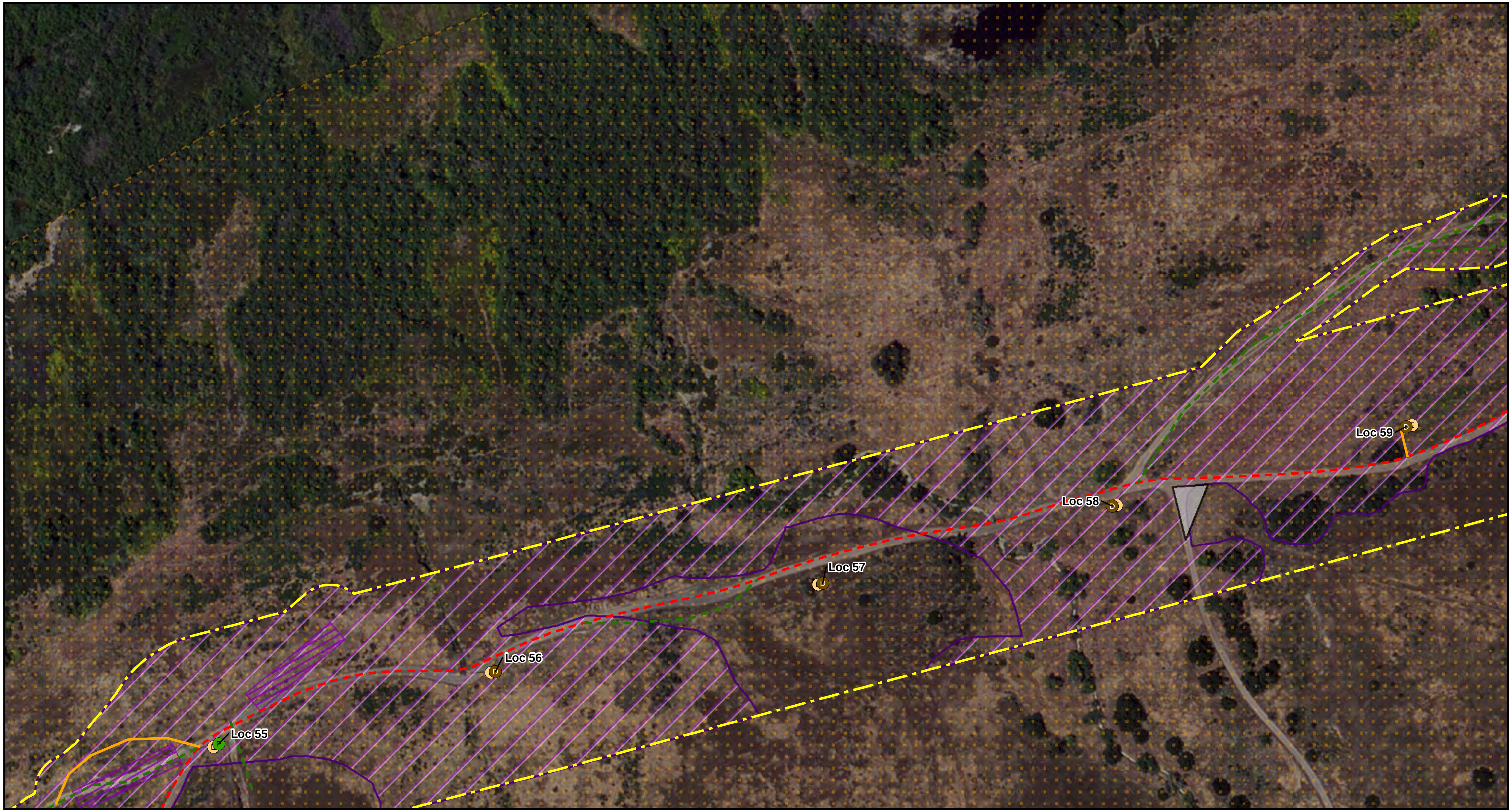
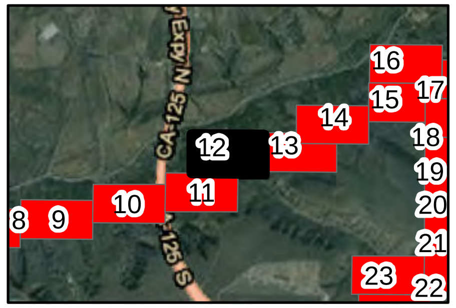


Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- ▨ String Site
- ▭ Turnaround Area
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



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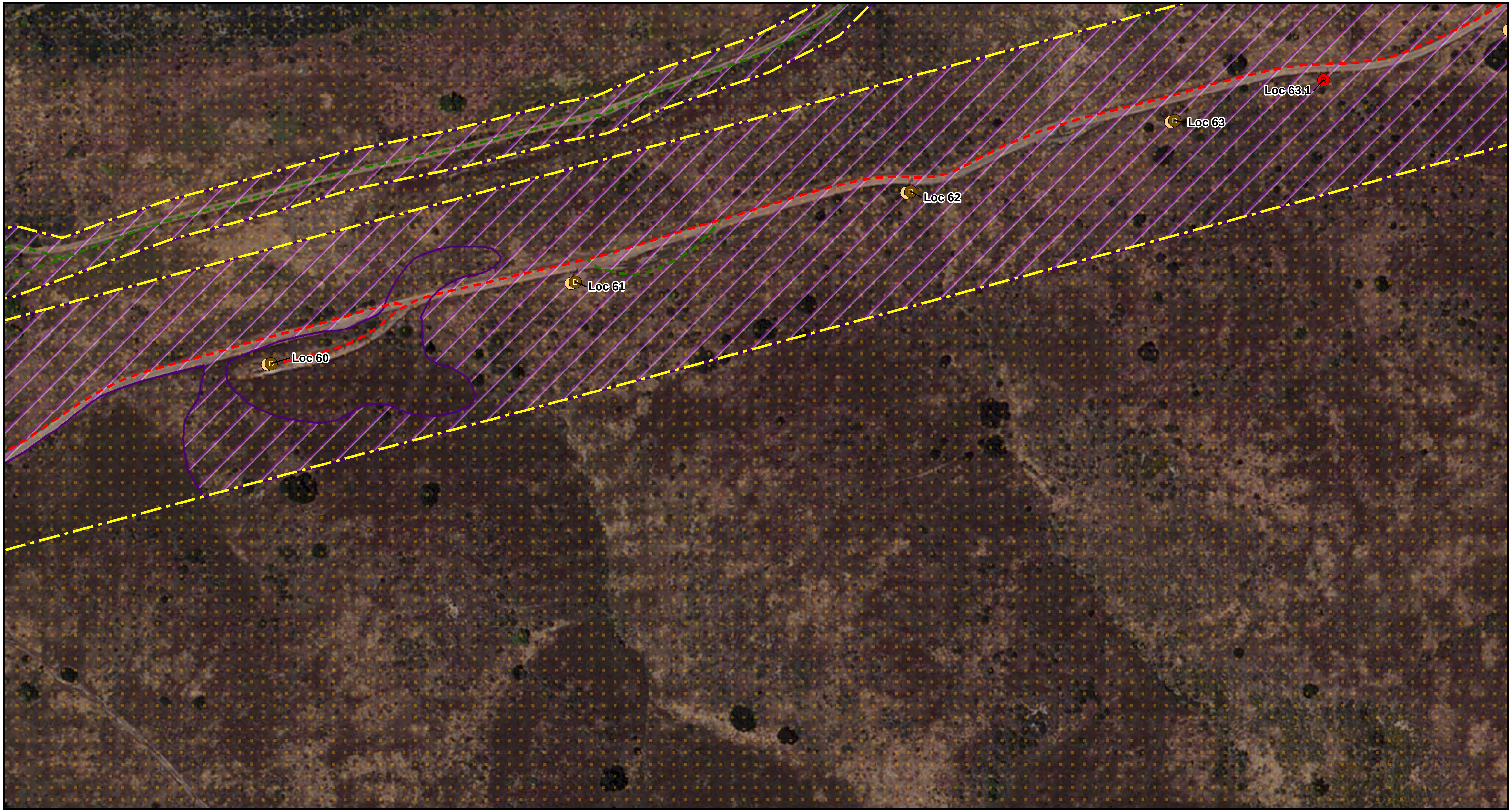

Legend

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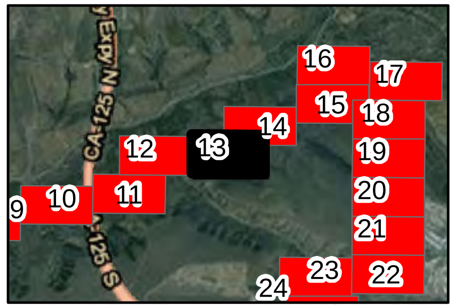
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ⬚ Survey Buffer
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



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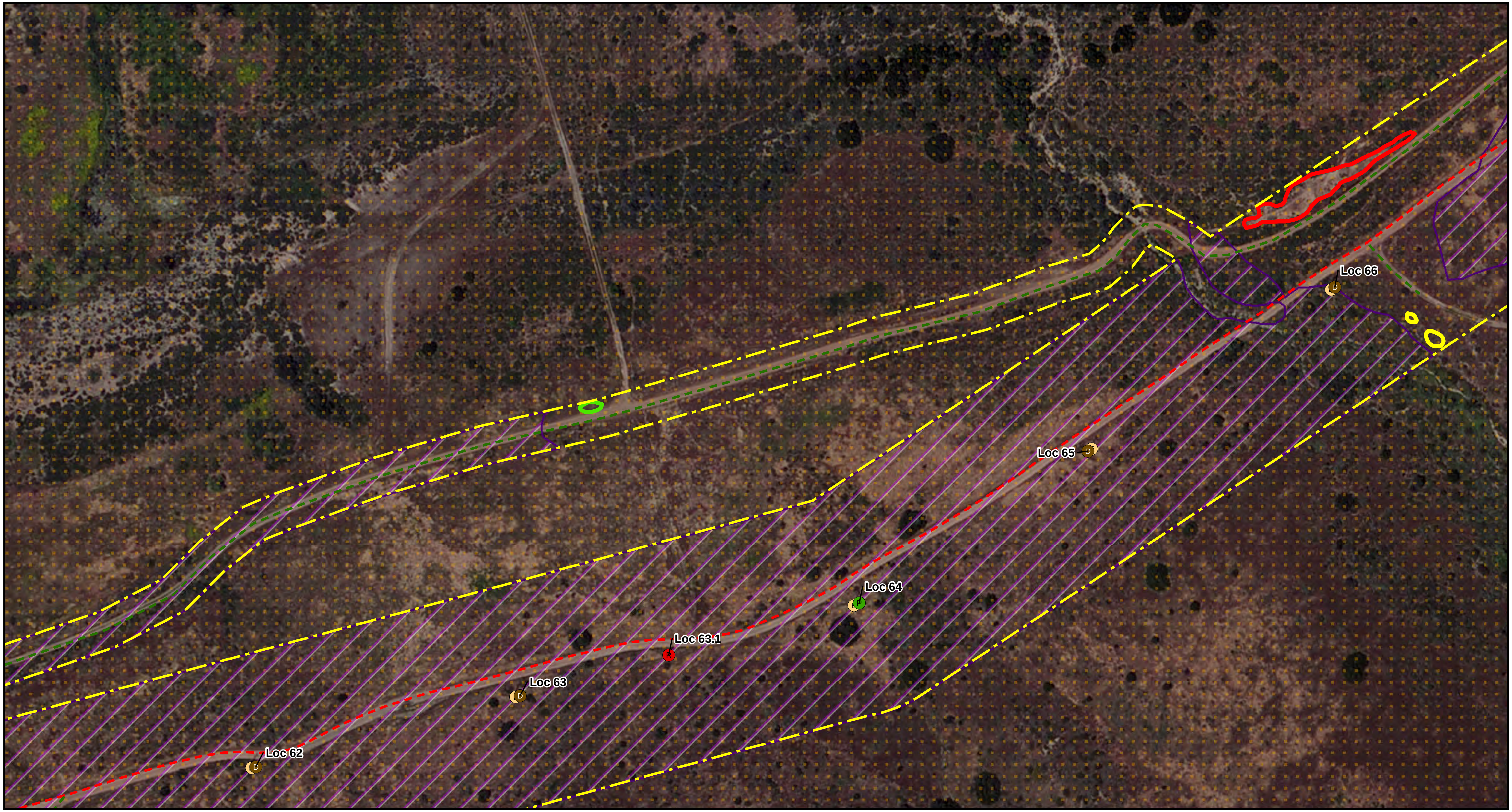
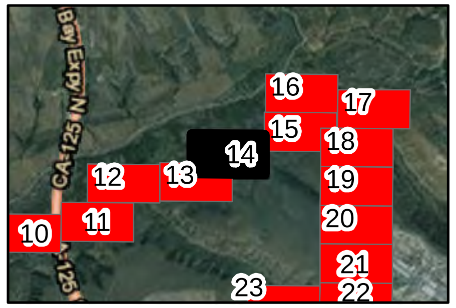


Legend

- D Direct Bury Steel Pole
- P Pier Foundation Steel Pole
- R Remove-from-Service
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density



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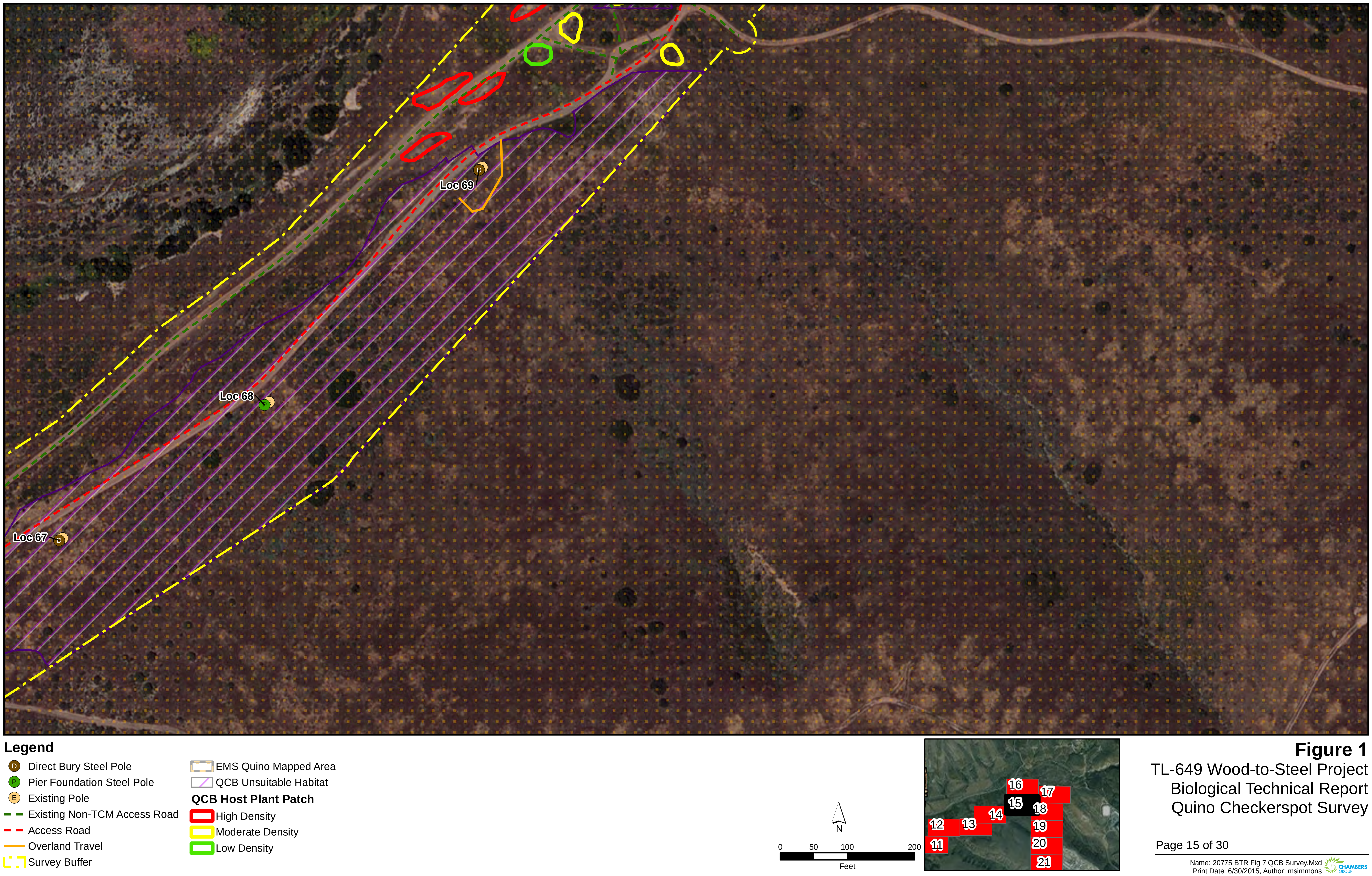

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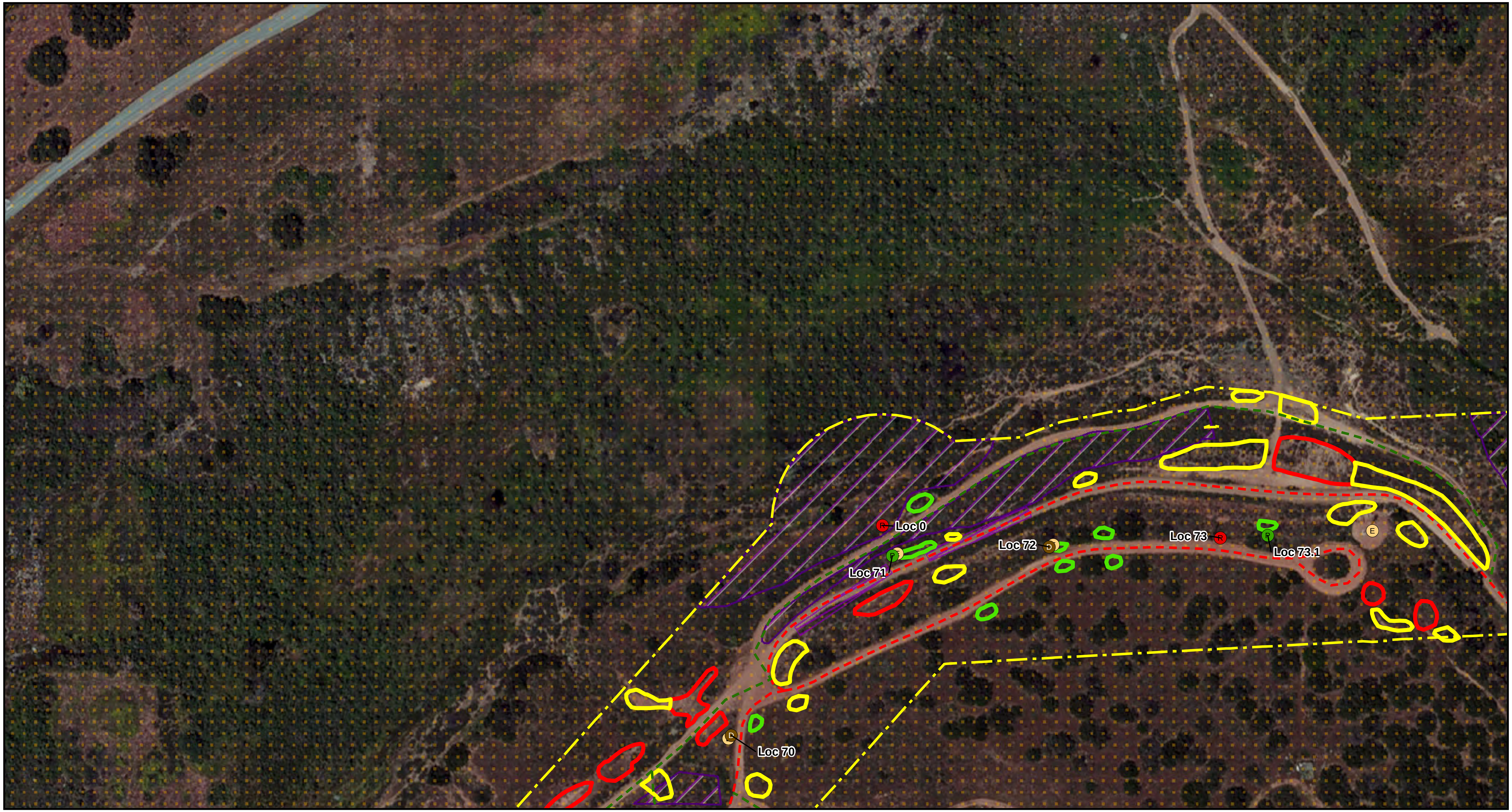
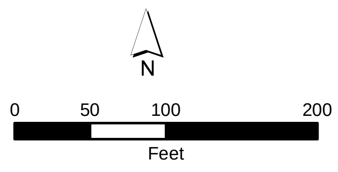


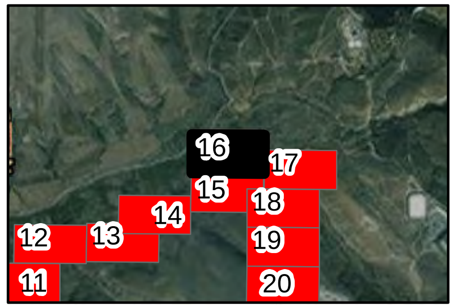
Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- -- Existing Non-TCM Access Road
- -- Access Road
- ⬚ Survey Buffer
- ▨ String Site
- ⬚ EMS Quino Mapped Area
- ☐ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density





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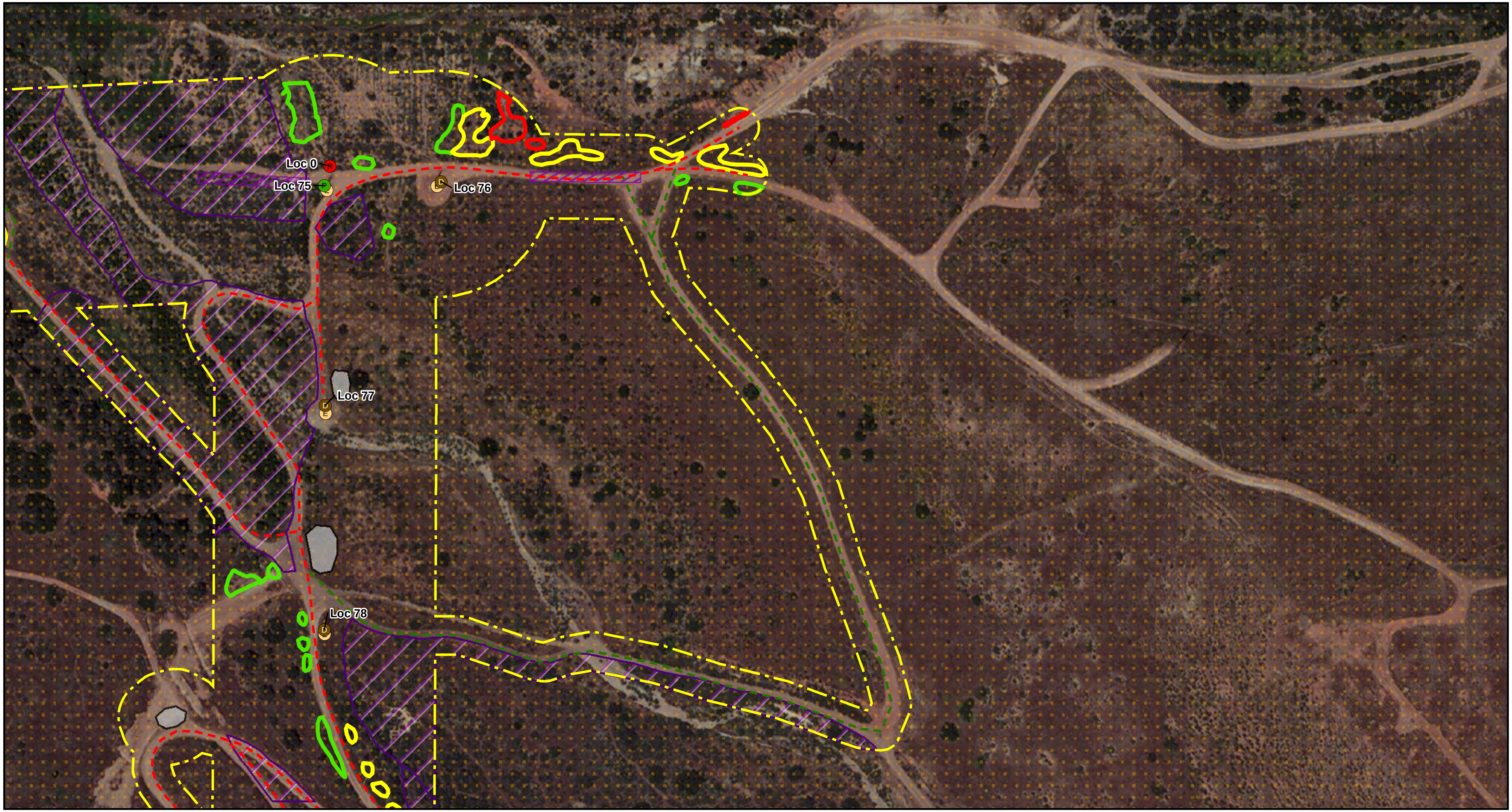


Legend

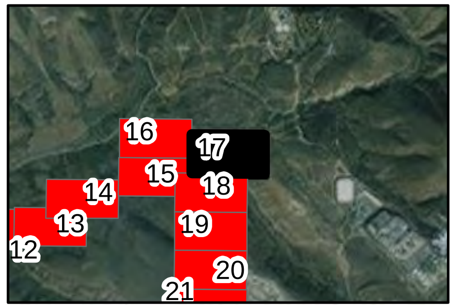
- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓡ Remove-from-Service
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- ■ Turnaround Area
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

N

0 50 100 200
Feet



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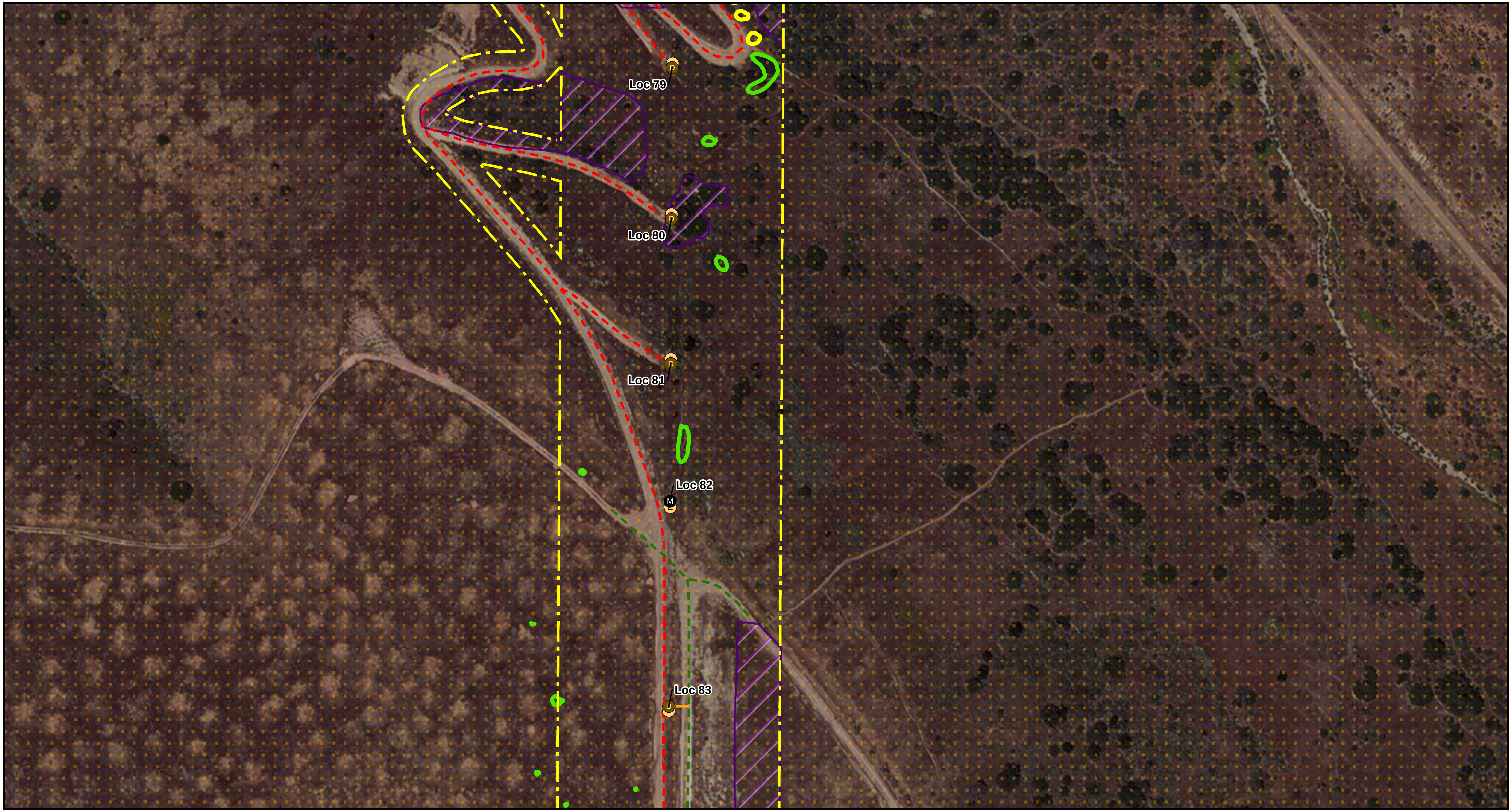


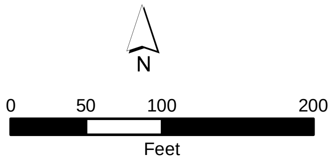
Legend

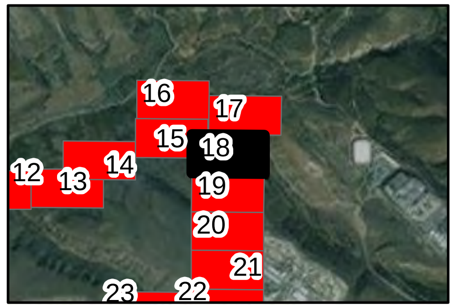
Ⓓ Direct Bury Steel Pole
Ⓜ Micro Pile Foundation Steel Pole
Ⓔ Existing Pole
-- Existing Non-TCM Access Road
-- Access Road
— Overland Travel
▭ Survey Buffer

▭ EMS Quino Mapped Area
▨ QCB Unsuitable Habitat

QCB Host Plant Patch

🟨 Moderate Density
🟩 Low Density





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Page 18 of 30

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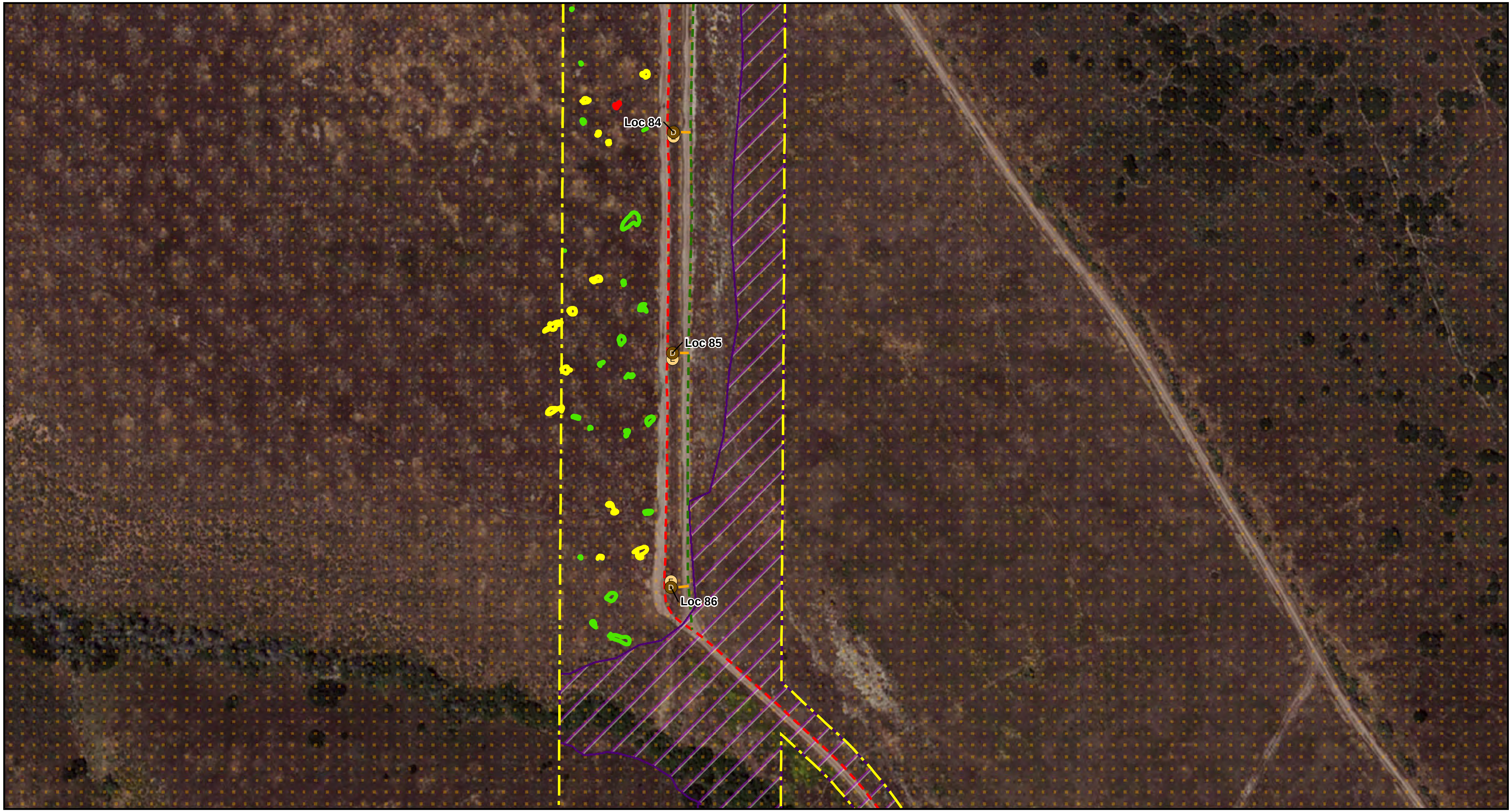

Legend

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- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

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Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
Print Date: 6/30/2015, Author: msimmons

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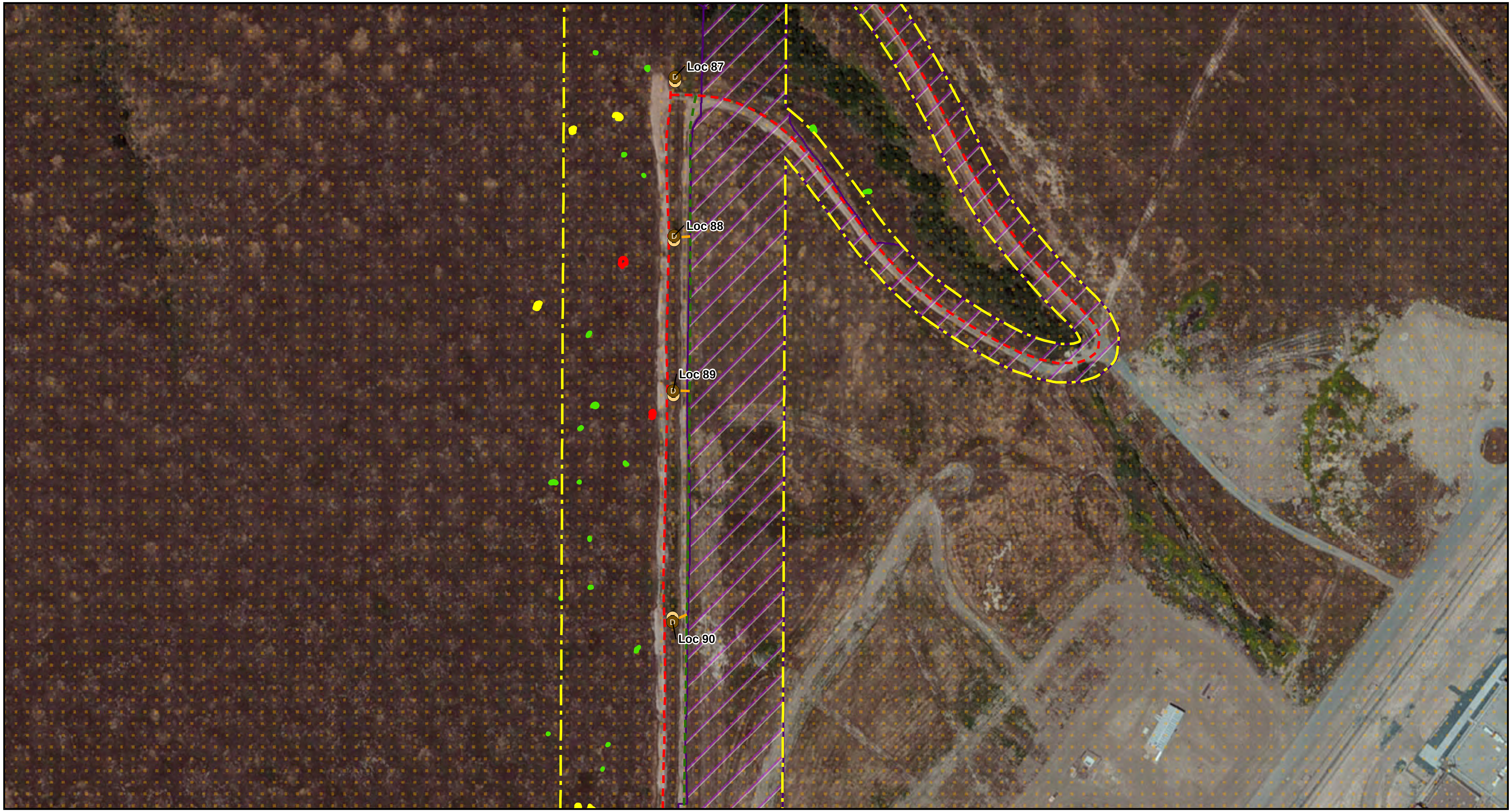

Legend

- D Direct Bury Steel Pole
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density

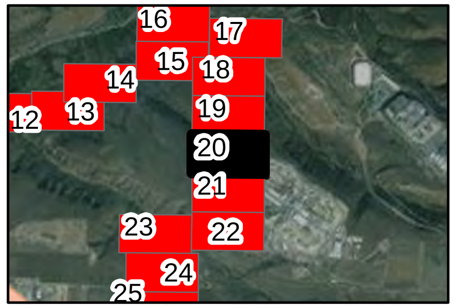

Figure 1

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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Legend

- Ⓓ Direct Bury Steel Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- Survey Buffer
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

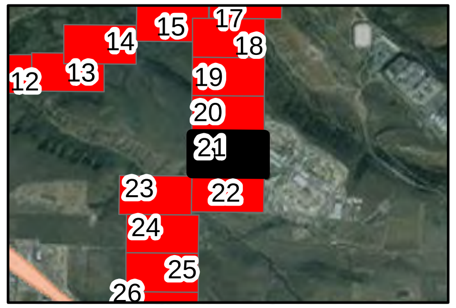
QCB Host Plant Patch

- 🟨 Moderate Density
- 🟩 Low Density

N

0 50 100 200

Feet



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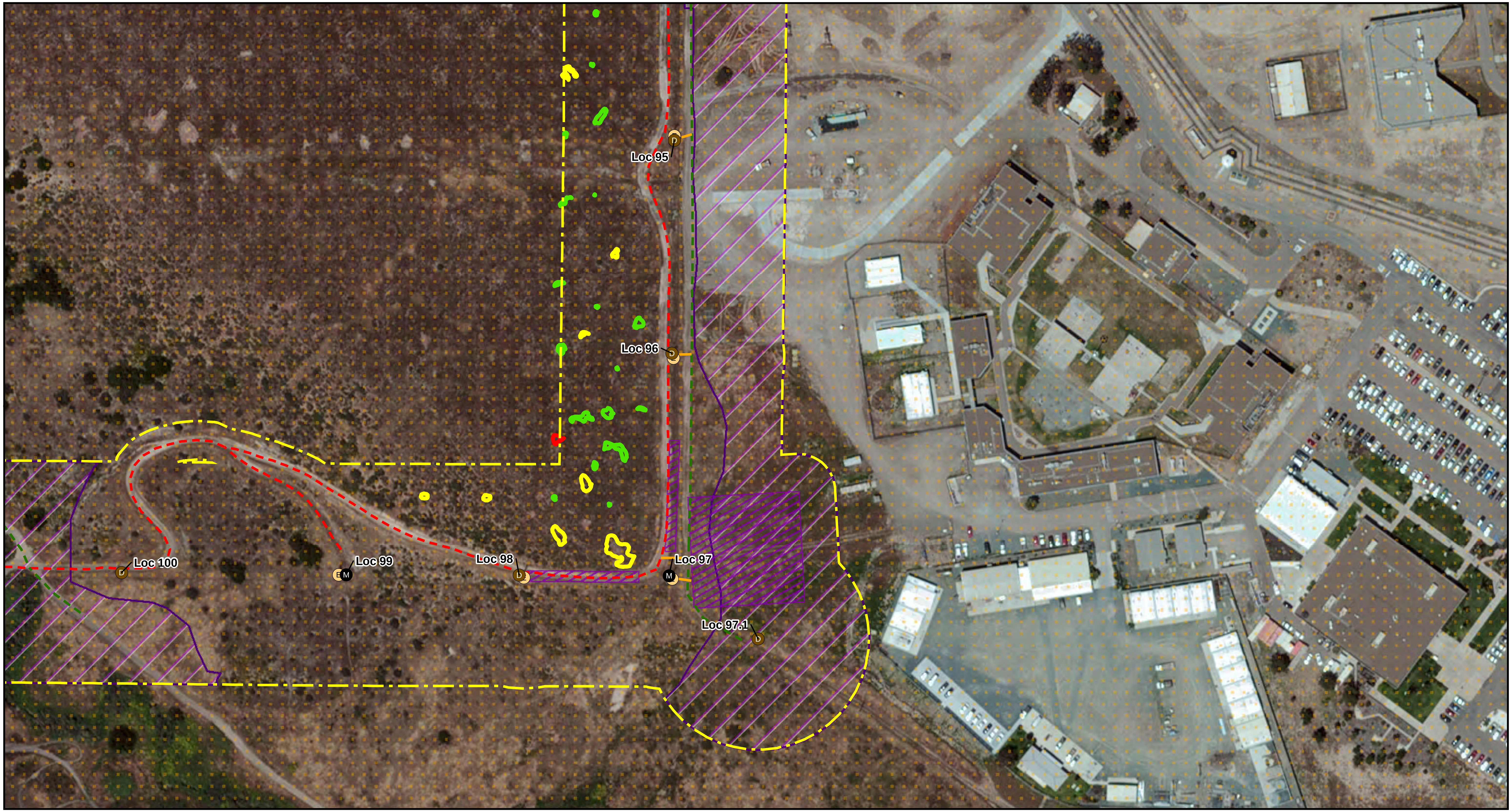
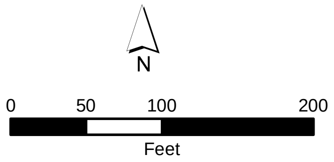


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓜ Micro Pile Foundation Steel Pole
- Ⓔ Existing Pole
- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ━ Overland Travel
- ⬚ Survey Buffer
- ▨ String Site
- ⬚ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

QCB Host Plant Patch

- 🟥 High Density
- 🟨 Moderate Density
- 🟩 Low Density



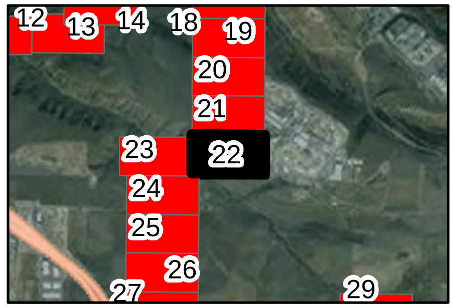


Figure 1

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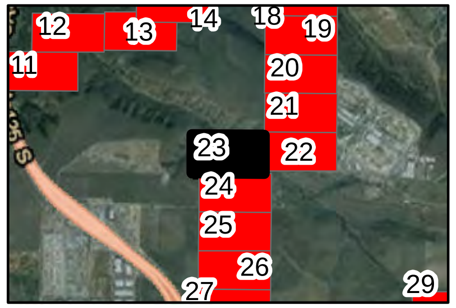
Legend

- D Direct Bury Steel Pole
- M Micro Pile Foundation Steel Pole
- E Existing Pole
- -- Existing Non-TCM Access Road
- -- Access Road
- ▭ Survey Buffer
- ▨ String Site
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



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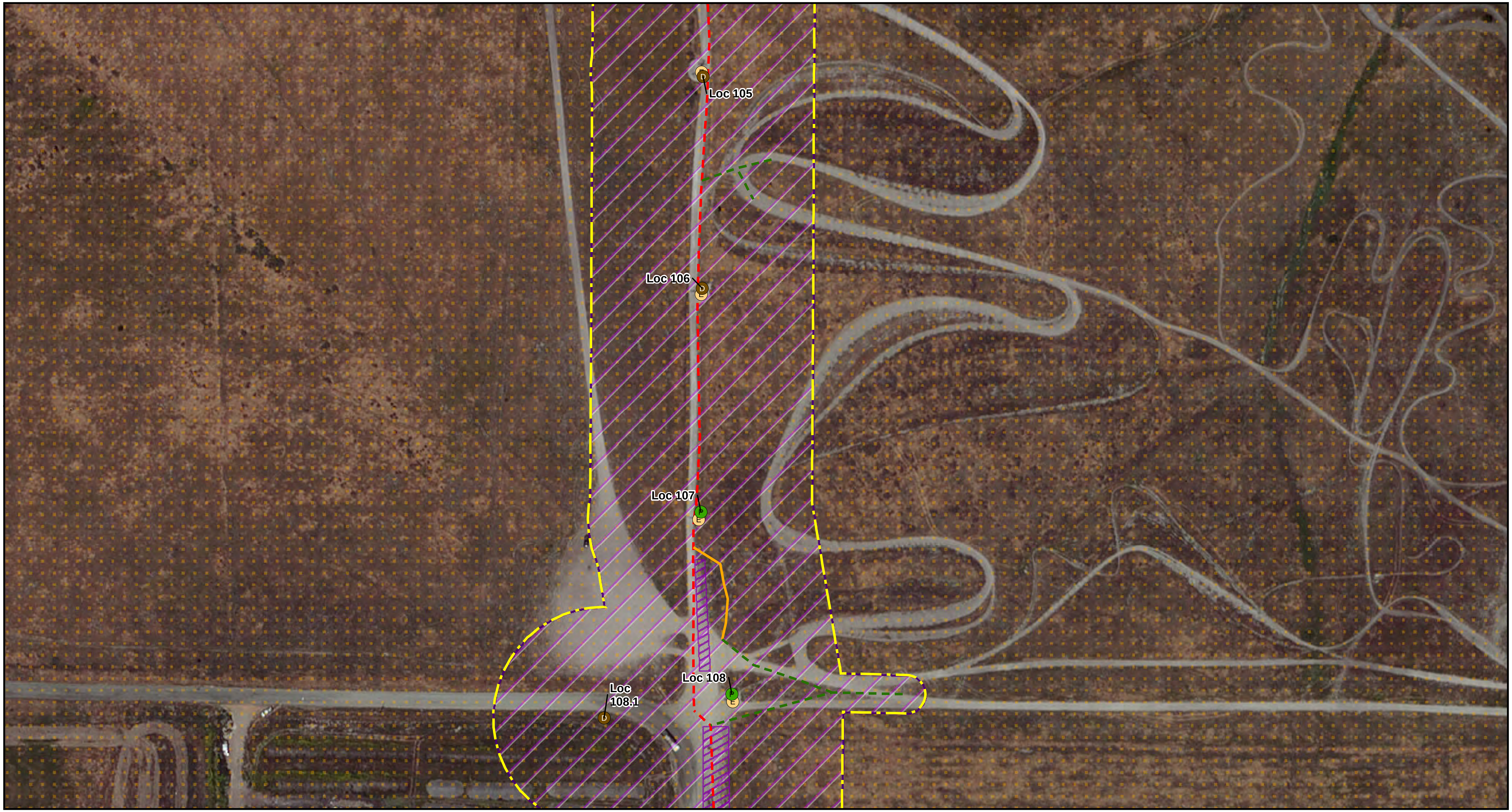
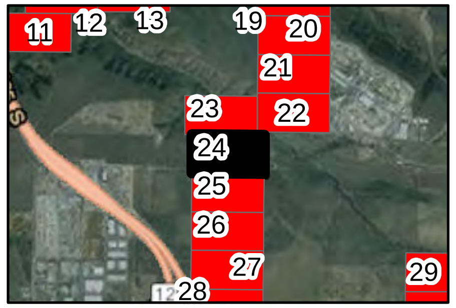


Legend

- Ⓓ Direct Bury Steel Pole
- Ⓟ Pier Foundation Steel Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- — Overland Travel
- ⬚ Survey Buffer
- ▨ String Site
- ▨ EMS Quino Mapped Area
- ☐ QCB Unsuitable Habitat



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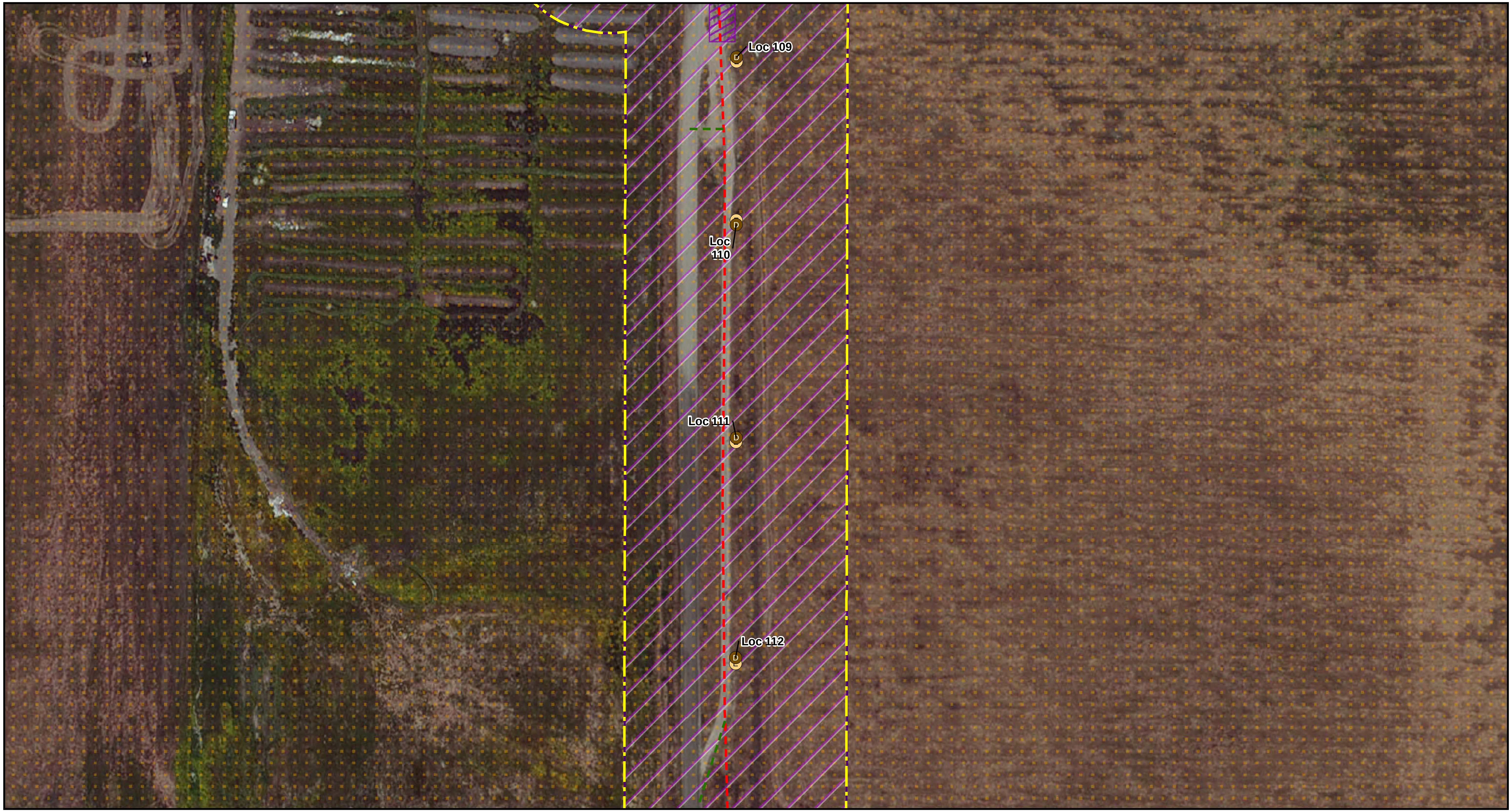
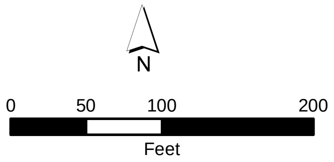
Quino Checkerspot Survey



Legend

- Ⓓ Direct Bury Steel Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Buffer
- ▨ String Site
- EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat



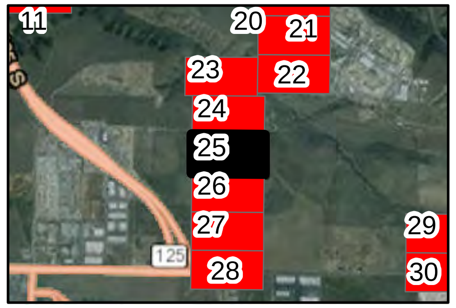


Figure 1

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Biological Technical Report
Quino Checkerspot Survey

Name: 20775 BTR Fig 7 QCB Survey.Mxd
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Legend

- Ⓓ Direct Bury Steel Pole
- Ⓞ Other Pole (NW)
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ⬚ Survey Buffer
- ▨ String Site
- ⬚ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

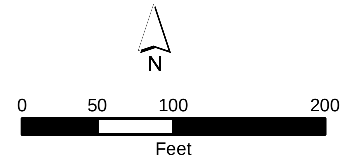

Figure 1

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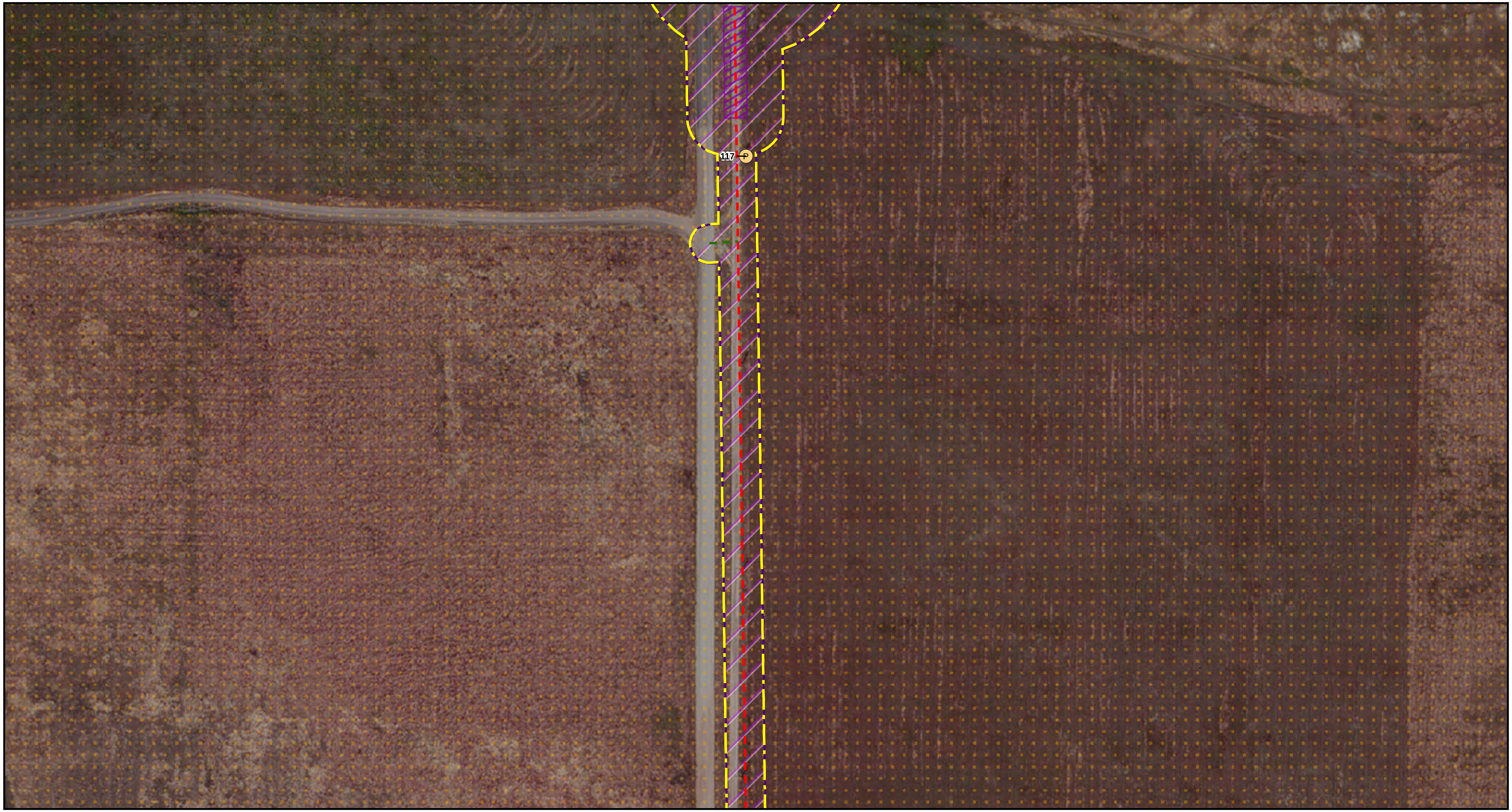

Legend

- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ⬚ Survey Buffer
- ▨ String Site
- ▭ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

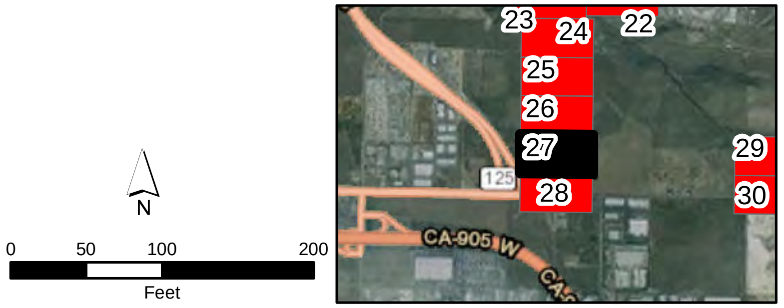

Figure 1

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Biological Technical Report
Quino Checkerspot Survey

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Legend

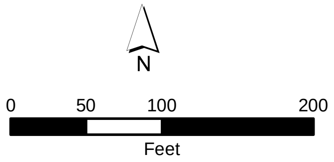
╌ Existing Non-TCM Access Road

╌ Access Road

▭ Survey Buffer

▨ EMS Quino Mapped Area

▨ QCB Unsuitable Habitat



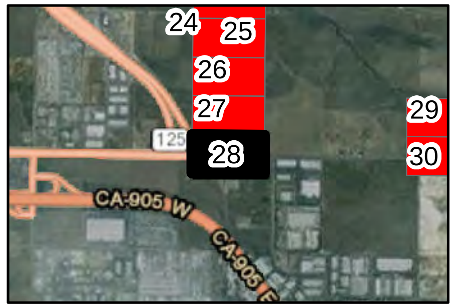


Figure 1

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Biological Technical Report
Quino Checkerspot Survey

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Legend

- 🟨 Survey Buffer
- 🟧 Staging Yard
- ▨ EMS Quino Mapped Area
- ▨ QCB Unsuitable Habitat

Figure 1

TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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CHAMBERS GROUP

Legend

🟨 Survey Buffer
🟧 Staging Yard
▭ EMS Quino Mapped Area
▨ QCB Unsuitable Habitat

N

0 50 100 200
Feet

Figure 1
TL-649 Wood-to-Steel Project
Biological Technical Report
Quino Checkerspot Survey

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ATTACHMENT B – OBSERVED POTENTIAL QUINO CHECKERSPOT BUTTERFLY NECTAR SOURCE LIST

MONOCOTS

ALLIACEAE	**Onion Family**
Allium praecox	Early onion
IRIDACEAE	**Iris Family**
Sisyrinchium bellum	Blue-eyed grass
LILIACEAE	**Lily Family**
Calochortus splendens	Splendid mariposa lily
MELANTHIACEAE	**Camas Family**
Toxicoscordion venenosum var. *venenosum*	Death camas
THEMIDACEAE	**Brodiaea Family**
Bloomeria crocea var. *crocea*	Common goldenstar
Brodiaea terrrestris ssp. *kernensis*	Dwarf brodiaea
Dichlostemma capitatum	Blue dicks
Muilla maritima	Common muilla

DICOTS

ADOXACEAE	**Moschatel Family**
Sambucus nigra ssp. *caerulea*	Blue elderberry
ANACARDIACEAE	**Sumac Family**
Rhus integrifolia	Lemonade sumac
APIACEAE	**Carrot Family**
Daucus pusillus	American wild carrot
Foeniculum vulgare	Sweet fennel
Sanicula arguta	Sharp-toothed sanicle
Sanicula bipinnatifida	Purple sanicle
Tauschia arguta	Southern tauschia
APOCYNACEAE	**Dogbane Family**
Funastrum cynanchoides	Climbing milkweed
ASTERACEAE	**Sunflower Family**
Achillea millefolium	Yarrow
Ambrosia confertiflora	Weak-leaf bur-sage
Ambrosia psilostachya	Western ragweed
Artemisia californica	Coastal sagebrush
Baccharis salicifolia	Mule-Fat
Bahiopsis laciniata **(CRPR 4.2)**	San Diego sunflower
Carduus pycnocephalus	Italian thistle
Centaurea melitensis	Tocalote
Corethrogyne filaginifolia	Common sandaster
Deinandra conjugens **(CRPR 1B.1)**	Otay tarweed
Deinandra fasciculata	Fascicled tarweed
Encelia californica	California encelia
Eriophyllum confertiflorum var. *confertiflorum*	Long-stem golden-yarrow

Glebionis coronaria	Crown Daisy
Grindelia camporum	Gumplant
Gutierrezia californica	California matchweed
Hedypnois cretica	Crete hedypnois
Helianthus annuus	Western sunflower
Helminthotheca echioides	Bristly ox-tongue
Holocarpha virgata ssp. *elongata* **(CRPR 4.2)**	Graceful tarplant
Hypochaeris glabra	Smooth cat's ear
Isocoma menziesii	Goldenbush
Lasthenia coronaria	Southern goldfields
Lasthenia gracilis	Common goldfields
Logfia filaginoides	California cottonrose
Logfia gallica	Narrowleaf cottonrose
Malacothrix clevelandii	Cleveland's desert dandelion
Matricaria discoidea	Pineapple weed
Osmadenia tenella	Osmadenia
Pseudognaphalium californicum	California everlasting
Pseudognaphalium canescens	Everlasting cudweed
Rafinesquia californica	California chicory
Silybum marianum	Milk thistle
Sonchus oleraceus	Common sow-thistle
Sonchus asper	Prickly sow-thistle
Stylocline gnaphaloides	Everlasting nest-straw
AIZOACEAE	**Ice Plant Family**
Mesembryanthemum crystallinum	Crystalline ice plant
Mesembryanthemum nodiflorum	Slender leaved ice plant
BORAGINACEAE	**Borage Family**
Amsinckia menziesii	Fiddleneck
Cryptantha angustifolia	Narrow-leaf cryptantha
Cryptantha sp.	Cryptantha species
Eriodictyon trichocalyx	Hairy yerba santa
Harpagonella palmeri **(CRPR 4.2)**	Palmer's grappling-hook
Pectocarya linearis	Slender pectocarya
Phacelia cicutaria var. *hispida*	Caterpillar phacelia
Phacelia parryi	Parry's phacelia
Pholistoma membranaceum	White fiesta flower
Plagiobothrys collinus	California popcornflower
BRASSICACEAE	**Mustard Family**
Brassica nigra	Black mustard
Capsella bursa-pastoris	Shepard's purse
Hirschfeldia incana	Short-pod mustard
Lepidium nitidum	Shining peppergrass
Sisymbrium irio	London rocket
Sisymbrium orientale	Indian hedge mustard
CACTACEAE	**Cactus Family**
Cylindropuntia prolifera	Coast cholla

Ferocactus viridescens **(CRPR 2B.1)**	San Diego barrel cactus
Opuntia littoralis	Coast prickly pear
CARYOPHYLLACEAE	**Pink Family**
Silene gallica	Common catchfly
Spergularia bocconi	Boccone's sand spurry
CONVOLVULACEAE	**Cucumber Family**
Calystegia macrostegia	Island morning glory
CRASSULACEAE	**Stonecrop Family**
Dudleya variegata **(CRPR 1B.2)**	Variegated dudleya
ERICACEAE	**Heath Family**
Arctostaphylos otayensis **(CRPR 1B.2)**	Otay manzanita
EUPHORBIACEAE	**Spurge Family**
Euphorbia sp.	Spurge
FABACEAE	**Pea Family**
Acmispon glaber	Deerweed
Acmispon strigosus	Strigose deerweed
Astragalus sp.	Milkvetch
Lupinus concinnus	Bajada lupine
Lupinus succulentus	Arroyo lupine
Medicago polymorpha	California burclover
Melilotus indicus	Indian sweetclover
Prosopis glandulosa	Honey mesquite
Trifolium hirtum	Rose clover
GENTIANACEAE	**Gentian Family**
Zeltnura venusta	Canchalagua
GERANIACEAE	**Geranium Family**
Erodium botrys	Long-beaked filaree
Erodium cicutarium	Red-stem filaree
Erodium moschatum	White-stem filaree
LAMIACEAE	**Purslane Family**
Marrubium vulgare	Horehound
Salvia apiana	White sage
Salvia mellifera	Black sage
Salvia munzii **(CRPR 2B.2)**	Munz's sage
LYTHRACEAE	**Loosestrife Family**
Lythrum hyssopifolia	Grass poly
MALVACEAE	**Mallow Family**
Sidalcea malviflora ssp. *sparsifolia*	Checkerbloom
MONTIACEAE	**Miner's Lettuce Family**
Calandrinia menziesii	Red maids
Claytonia perfoliata	Miner's lettuce
MYRSINACEAE	**Myrsine Family**
Anagallis arvensis	Scarlet pimpernel
NYCTAGINACEAE	**Four O'Clock Family**
Mirabilis laevis var. *crassifolia*	Coastal wishbone plant
OROBANCHACEAE	**Broomrape Family**

Castilleja affinis	Indian paintbrush
Castilleja densiflora	Dense flower owl's clover
Castilleja exserta	Purple owl's-clover
OXALIDACEAE	**Wood Sorrel Family**
Oxalis californica	California wood-sorrel
PAPAVERACEAE	**Poppy Family**
Eschscholzia californica	California poppy
Romneya trichocalyx	Hairy matilija poppy
PLANTIGINACEAE	**Plantain Family**
Antirrhinum nuttallianum	Nuttall's snapdragon
Nuttallanthus texanus	Large blue toadflax
Plantago erecta	Dot-seed plantain
POLEMONIACEAE	**Phlox Family**
Gilia sp.	Gilia species
Linanthus dianthiflorus	Farinose ground pink
Navarretia hamata	Hooked skunkweed
POLYGONACEAE	**Buckwheat Family**
Chorizanthe fimbriata	Fringed spineflower
Polygonum aviculare	Common knotweed
Eriogonum fasciculatum	California Buckwheat
PRIMULACEAE	**Primrose Family**
Primula clevelandii ssp. *clevelandii*	Padre's shooting star
RANUNCULACEAE	**Buttercup Family**
Delphinium parryi	Parry larkspur
Ranunculus californicus	California buttercup
RHAMNACEAE	**Buckthorn Family**
Ceanothus otayensis **(CRPR 1B.2)**	Otay lilac
Ceanothus tomentosus	Ramona lilac
ROSACEAE	**Rose Family**
Heteromeles arbutifolia	Toyon
Prunus ilicifolia ssp. *ilicifolia*	Holly-leaf cherry
RUBIACEAE	**Madder (Coffee) Family**
Galium angustifolium	Narrow-leaf bedstraw
Galium aparine	Common bedstraw
SALICACEAE	**Willow Family**
Salix gooddingii	Goodding's black willow
Salix lasiolepis	Arroyo willow
SIMMONDSIACEAE	**Jojoba Family**
Simmondsia chinensis	Jojoba
SOLANACEAE	**Nightshade Family**
Solanum parishii	Parish's nightshade
TAMARIACEAE	**Tamarisk Family**
Tamarix ramosissima	Saltcedar
VERBANACEAE	**Verbena Family**
Verbena lasiostachys	Common verbena
VIOLACEAE	**Violet Family**

Viola pedunculata	Johnny jump-up

ATTACHMENT C – OBSERVED BUTTERFLY SPECIES LIST

Attachment C
2014 Tie-Line 649 Wood To Steel Pole Replacement Project
Quino Checkerspot Butterfly Survey Report Species List
San Diego County, California

PAPILIONIDAE	**SWALLOWTAILS**
Papilioninae	***Swallowtails***
Papilio zelicaon	Anise swallowtail
Papilio rutulus	Western tiger swallowtail
Papilio eurymedon	Pale swallowtail
PIERIDAE	**WHITES AND SULFURS**
Pierinae	***Whites***
Pontia beckerii	Becker's white
Pontia protodice	Checkered white
Pontia rapae	Cabbage white
Anthocharis sara	Sara's orangetip
Coliadinae	***Sulphurs***
Colias eurytheme	Orange sulphur
LYCAENIDAE	**GOSSAMER-WING BUTTERFLIES**
Theclinae	***Hairstreaks***
Callophyrs thornei (**BLM-sensitive**)	Thorne's hairstreak
Strymon melinus	Gray hairstreak
Polyommatinae	***Blues***
Brephidium exile	Western pygmy blue
Leptotes marina	Marine blue
Hemiargus ceraunus	Ceraunus blue
Glaucopsyche piasus	Southern blue
Plebeius icarioides	Acmon blue
Euphilotes bernardino	Bernardino dotted blue
RIODINIDAE	**METALMARKS**
Apodemia virgulti	Behr's metalmark
NYMPHALIDAE	**BRUSH-FOOTED BUTTERFLIES**
Heliconiinae	***Heliconians and Fritillaries***
Speyeria callippe	Callippe Fritillary
Speyeria coronis	Coronis Fritillary
Nymphalinae	***True Brush-foots***
Nymphalis antiopa	Mourning cloak
Vanessa cardui	Painted lady
Vanessa annabella	West coast lady
Vanessa atalanta	Red admiral
Junonia coenia	Common buckeye
Limenitidinae	***Admirals and Relatives***
Adelpha bredowii	California sister
Satyrinae	***Satyrs***
Coenonympha tullia	Common ringlet
Danainae	***True Brush-foots***
Danaus plexippus	Monarch
Danaus gilippus	Striated queen
HESPERIIDAE	**SKIPPERS**
Pyrginae	***Spread-wing Skippers***
Erynnis funeralis	Funereal duskywing

Pyrgus communis	Checkered skipper
Hesperiinae	***Grass skippers***
Copaeodes aurantiacia	Orange skipperling

ATTACHMENT D – FIELD NOTES

Location ______________________ Date ____________

Project / Client ______________________

2.16.15 TL 649 QCB Assessment

- Ian Maunsell, Kris Alberts
- Met Ian @ Starbuck's Otay @ 0800
- START: 0815. 60°, wind 0-2, clouds 20% (marine breaking), no precip.

- Otay Yard (7144 Otay Mesa Rd): 100% developed w/ many vehicles, buildings, sheds, stockpiles. Absent of plants.
  ***No QCB survey necessary.**
- Photo 1: Otay Lakes Rd / Harvest Rd intersection looking N.
  ***No QCB survey necessary.** Entirely disturbed w/ non-native vegetation, regularly graded dirt access road. No cryptobiotic soils, no chance of larval host plant.
  SALTRA, MALPAR, HORMUR, Brassica, AVEFAT
- Photos 2 (S), 3 (N) from hilltop at Z31758. Still not QCB suitable, same habitat as photo 1.
  EROCIC in limited areas.
- Photos 4-9 (marked on map) at Loc 108 (Z31750)
  *No QCB Survey. All same habitat as before, w/ some areas dominated by EROCIC. No shrubs.
- Photos 10-14 (marked on map) at Loc 103 (Z31745)
  SS #25: ***QCB Suitable on NE-facing hillTop.**
  w/ cryptogrammic crusts. LOGCAL, CRACON, Chlorogal
  Allium, EROCIC, Plagiobothrys, HYPGAL. No host plant seen. Circled area on map.
- Photo 15 (on map) looks W to non-suitable QCB. NNG, RHUINT, wetland.

- Photos 16 - 19 (on map). Marginal QCB suitability. No host observed. Loose, friable soils w/ EROCIC, CENMEL dominant. Sparse SIMCHI; also CSS w/ ERIFAS, SIMCHI, BAHLAC.
- Photos 20-21 (on map). QCB suitable w/ PLAERE, med. density. 21 shows PLAERE 1-4 cm, some flowering, some not. EROCIC, EROBOT, LASCAL, etc.
- Photos 22-25 (on map) vernal swales w/ sparse ARTCAL, ERIFAS. QCB suitable. Mod-to Low density PLAERE. Sparse shrub cover. Nectar sources aplenty.

  Dense NNG to developed fill slope on E side from prison development precludes host plants.
- Photo 26: Excluded NNG at Schpge gate
- Photos 27-28: Excluded NNG & road
- Photos 29-30: Included vernal swale habitat. Same qualities as before.
- Photos 31-32: Included CSS/roadways. SALAP, MIMAUR, RHUINT, ARTCAL. Roadway included NW of PP. Exclude Tecate cypress/riparian forest, some patches of dense shrubs within overall area.

Photo 33: Excluded RHUINT closed canopy.

Photo 34: Included road edge. CRACON, Plag.

Photo 35: Included vernal pool w/ PLAERE.

Photos 36 + 37: Excluded closed canopy CSS + riparian + Tecate cypress

Photo 38: Included riparian floodland.

0730 to 1630 = 9.0 hours

Location

Date Orange flags

Project / Client Home at 1630. Home Depot Stop between

END: 1540. 68°, wind 1-4 mph, clouds 10%, precip 0%

Photo 39: Included & Excluded habitat.
Photo 40: Excluded roadside
Photo 41: PLAERE mod. density roadside.
Photo 42: High density PLAERE
Photo 43/~~4~~44: Marginal QCB habitat. Grassy, sparser CSS
denser, taller grasses - Inc & Exc. areas.
Photo 45: Included non-host plant area
Photos 46/47: Excluded NNG/NG w/ dis CSS
Photos 48/49: " " " "
Photo 50: Included NG, no hosts seen. Potential there.
Photo 51/52: Included marginal habitat E, then W, along road
Photo 53/54: E shows included EROBOT, exc. FOEVUL;
W shows excluded NNG/FOEVUL.
Photo 55: looks W at excluded road & bride
Photo 56: looks N at included NG (truck)
Photo 57: looks W from under bridge to excluded stuff
Photo 58: looks S at inc. patch
Photo 59: excluded NNG & CSS looking E
Photo 60: excluded NNG looking W
Photo 61: Excluded. Too much NNG.
Photo 62: at exc. NG/NNG/CSCS closed canopy
Photo 63: all exc NNG/NG/dist.
Photo 64: looks SE at exc. NG/NNG/CSS
Main St. Staging Yard entirely mass graded has plants,
but all weeds & NNG (SCHBAR)

Project / Client

2.17.15 TL 649 QCB Survey #1 (from W to E)
- Left house at 0830. Arrived 0915. Weather not suitable.
- START: 0940. 62°, clouds 40% (marine breaking), wind 1-3 mph, clouds 0

Nectar Sources

EROCIC
Allium sp.
DICCAP
HIRINC
EROBOT
Plagiobothrys sp.
Dodecatheon
ENCCAL
BRANIG
LASCAL
red maids

SALMUN
ESCCAL
LEPNIT
MELIND
AMSMEN
johnny jump-up
ACMGLA
Linanthus
HIRINC

~~[illegible]~~ DICCAP skipper (nectar Allium)
CA ringlet |||| |||| |
painted lady |||| |||| ||
funereal duskywing |||
Sara's orange tip |||
striated queen ||
sphinx moth ||

Notes

Z81973 to just east of Z81978 include for surveys from ~ 60-150 ft S.
cryptogammic soils on upper slopes + up top, not choked by grasses or shrubs.
just west Z81971 to just east Z81081 NG w/ openings + cryptogamic crust
low flats N of Z81078 include 100' W, 150', 50' E.
* 2.5 hours to survey Coors Ampitheater to 125 bridge
Z81072 to include low NG/EROBOT, HYPGLA patches to S of road

Z 81067 flats N of pole to ~250 E
ERQBOT / EROCIC / HYPGLA
~200' E
Z 81066 to Z 81066 Flat just N 81066 + MSS/
CSS to S, cryptogamic crusts. S of fence
dirt road + hilltop that veers SE of Z 81064 include.

* Placed orange flags at host plant patches
* Photo'd high density + low density PLAERE
- Surveyed completely to Z 81409 (3 W of S-N to E-W junction)

END: 1550. 68°, wind 1-6 mph, clouds/precip 0.
Home @ 1630. | 8.0 hrs |

2.18.15 Apex Ysidora ARTO Monitoring
- left at 0600. START: 0645, 52°, wind 0, clouds 100% (marine), no preci
- morning fence inspection: Pass.
- front loader + dozer continuing excavations + grading.
- Hand crew spraying + doing hand-cutting, transplanting.
- Finished excavations / mass grading.
- Loader moved offsite.
- Hand crew remained until 16 .
- Monitored fence gate closure.

END: 1630. 72°, wind 0-2, clouds 100%, precip 0.

Location ______________________ Date ______________

Project / Client ______________________

2.19.15 TL 649 QCB Survey #1 (from end Harvest Rd. N. through vernal pools)

- Ida Maunsell, Kris Alberts. Met at Starbuck's at 0800
- Onsite by 0830. Marine layer, under **60°**.
- START: 0850. 64°, wind 0-3 mph, clouds 50%, precip 0.

<u>Nectar add'l.</u>

SONOLE	Tauschia arguta?	pygmy blue 𝍸 𝍸 𝍸 |
BAHLAN	DAUPUS	CA ringlet 𝍸 𝍸 |||
MIRCAL	BLOCRO	painted lady 𝍸 𝍸 𝍸 𝍸 |
Malacothrix	PHACIC	funereal duskywing 𝍸 ||
SISBEL	ANTNUT	Behr's metalmark 𝍸 𝍸 𝍸 𝍸 |
ERICON	ENCCAL	orange sulphur ||
dwarf camas	SILMAL	anise swallowtail |

*No QCB seen

* Flagged Host Plants from N end of Harvest Road, N through whole vernal pool complex, to Otay Canyon's south slope top.

END: 1530. 72°, wind 2.8 mph, clouds 90%, precip 0.

Location ______ Date ______

Project / Client ______

2-20-15 TL 649 QCB Survey #1 (from N end vernal pools to Z81409)

- Kris Alberts, Ian Maunsell. Arrived at 0830 Weather unsuitable
- START: 0950, 67°, wind 1-3 mph, clouds 90 %, no precip

Nectar add'l.

LOTSTR

Cryptantha sp.

PECLIN

MELIND

painted lady 𝍸

CA ringlet ||||

funereal duskywing 𝍸 |

Southern blue |||

*Thorne's hairstreak |

Sara's orange tip ||

common white |

*Flagged host plant patches on remainder of route, from 0950 - end.

*Survey started at 1020. Temp 70°, wind 0-1, clouds 90%, no precip.

*No QCB seen.

END: 1245. 73°, wind 0-1 mph, clouds 95%, no precip

Project / Client

2·24·15 TL 649 QCB survey #2 (from N end vernal pools to Z8142)

- Kris Alberts
- START: 1015 63°, wind 3-6 mph, clouds 0%, precip 0.

Add'l nectar sources

MIRCAL SONOLE
SISORI FOEVUL
Ambrosia confertiflora LEPNIT
SISBEL ENCCAL
VIOPED LOGCAL
CALMAC LOGFIL
Pholistoma membranaceum
CLAPER Plagiobothrys collinus
Sanicula bipinnatifada
Dodecathean clevelandii
Sanicula arguta Cryptantha angustifolia
ERIFAS CEATOM
Oxalis californica CEAOTA
Pseudognaphalium californicum
Allium praecox (early onion)
HIRINC Castilleja affinis [redacted]
MEDPOL Matricaria discoidea
BRANIG BACSAL
Nuttallanthus texanus (= LINCAN toad flax) Arctostaphylos otayensis

*No QCB

Behr's metalmark 𝍸 ||||
(blander) sphinx moth ||||
funereal duskywing ||
CA ringlet 𝍸 ||
painted lady 𝍸 𝍸 |
Striated queen |
orange sulphur || → (nectar MIMAUR)
[redacted]
checkered [redacted] white IV
Sara's orange tip ||||
(striped) sphinx moth |
Thorne's hairstreak |
[redacted]

END: 1530, 71°, wind 3-7 mph, clouds/precip 0.

[redacted]

2-26-15 TL 649 QCB Survey #2 (Coors Amp to N-S/E-W)

-Kris Alberts. START: 0945. 63°, wind 0-1, clouds 50%, precip 0

- Fine-tuned suitable area maps

* No QCB

Sara's orange tip |||
painted ldy ||
CA ringlet ~~||||~~ ~~||||~~
funereal duskywing ~~||||~~ |||
CA Sister |
red admiral |
striated queen |
Behr's metalmark ~~||||~~ |
checkered white |

END: 1545, 69°, wind 1-3 mph, clouds 20%, no precip.

Project / Client

3·4·15 TL 649 QCB Survey (N-S/E-W Section) #3

-Kris Alberts

-START: 1130. 74°, wind 1-3 mph, clouds/precip 0.

painted lady ~~||||~~ ~~||||~~ ~~||||~~
Behr's metalmark ~~||||~~ ||||
orange sulphur ||
Striated queen ||
checkered white |
Sara's orange tip |||
funereal duskywing |
southern blue |
CA ringlet ||||
Striply sphinx moth |

Add'l nectar sources
GUTCAL
CENMEL
Trifolium hirtum
PSEudo GAL
Solanum parishii

*No QCB

END: 1530 . 72°, wind 1-3, clouds/precip 0

3·6·15 TL 649 QCB Survey 3(3) (Coors Amp to N-S/E-W)

- Kris Alberts

- START: 0940, 67°, wind 0-1 mph, clouds/precip 0.

Sara's orange tip	|||	Add'l nectar
red admiral	|||	Glebionis coronaria
painted lady	卌 卌 卌 |||	LUPSUC
CA ringlet	卌 卌 卌 卌 | 卌 卌 卌	ANAARV
funereal duskywing	卌 卌 ||||	Ranunculus californicus
West Coast lady	|	ERIFAS
striated queen	|	RHUINT
Behr's metalmark	卌 ||||	ANTNUT
checkered white	||	
Stripey sphinx moth	|	
tiger swallowtail	|	
pygmy blue	||	

END: 1515. 81°, wind 1-4 mph, clouds/precip 0.

Project / Client

3-9-15 TL 649 QCB Survey #4(1) Vernal Stretch & Shilltop Stretch

- Kris Alberts
- START: 1005. 60°, wind 0-2 mph, clouds 20% (marine breaking), no precip.

Butterflies	Nectar Sources
painted lady ||| 𝍸 𝍸 𝍸 𝍸	MELIND BRANIG
Behr's metalmark 𝍸 𝍸 𝍸	CENMEL EROCIC
CA ringlet 𝍸 ||| 𝍸 𝍸 𝍸 𝍸 𝍸	CASEXS SONASP
funereal duskywing |||| 𝍸 |	PLAERE LASCORonaria
pygmy blue ||	SISBEL PLACOL
orange sulphur |	ERICON SONOLE
checkered white |	VIOPED Calochortus splendens
Sara's orangetip |	DODCLE HYPGLA
	SANARG EROMOS
* fairy shrimp in road pools [illegible]	SANBIP DICCAP
231736, 31737, 31738,	PSECAL SISIRI
31739, 729583, 31732	BLOCRO LEPNIT
(2 pools)	MULMAR HIRINC
	ACMGLA ALLPRA
* No QCB	MEDPOL Linanthus dianthiflorus
	EROBOT Malacothrix clevelandii
* Collected representative photos	MESNOD SILMAL
	BAHLAC
	ERIFAS
END: 1455. 67°, wind 3-9, clouds 3%, no precip	PHACIC

Project / Client

3.10.15 TL 649 QCB Survey 4(2)
- Kris Alberts
- START: 1005. 65°, wind 0-1, clouds 2%, no precip

Butterflies List

Behr's metalmark 𝍸 |||

CA ringlet 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ||||

painted lady 𝍸 𝍸

Monarch |

Sara's orangetip ||||

red admiral ||||

West Coast Lady ||

funereal duskywing 𝍸 ||

orange sulphur |

Striped [illegible] |

pale swallowtail |

anise swallowtail |

Checkered white |

Nectar Source List

GLECOR
EROCIC
ENCCAL
MELIND
SONOLE
HIRINC
BRANIG
Sarcostemma
PHACIC
ALLPRA
DICCAP
SISBEL
RHUINT
HYPGLA
ERIFAS
EROBOT
SANBIP
PLACOL
OAHLAC
LASCOR

ACMGLA
ANAARV
CALCIL
RANCAL
DODCLE
SAMNIG
VIOPED
LUPSUC
CALMAC
CASEXS
MATDIS
BACSAL (old name)
LINCAN
LEPNIT
ANTNUT
Gilia
ERICON
OXACAL
PLAERE
[illegible]CAL

CALSPL
LINDIA
AMSMEN
SALMUN
MELIND
MESNOD
CENMEL
SILGAL
Cryptantha sp.
LOGFIL
LOGGAL
LOTSTR
ESCCAL
ERITRI
SANARG

Notes:
1) Allium grasses dom. by CA ringlets. W of 125 [illegible]
2) Many patches dom w/ Allium, HYPGLA, or EROBOT/EROCIC
3) Fairy shrimp in most road pools E of 125.

END: 1530. 77°, wind 2-8 mph, clouds 8[illegible]% [illegible], no precip.

Project / Client

3·11·15 TL 649 QCB Survey 4(3)

Kris Alberts. START: 1200, 79°, wind 0-1 mph, clouds 98%, 0 precip.

Butterflies

Sara's orange tip ||||
funereal duskywing 𝍸 𝍸 ||||
Behr's metalmark 𝍸
orange sulphur |
cabbage white ||
checkered white |||
CA ringlet 𝍸 ||||:|
pale swallowtail |
southern blue ||
painted lady |

Nectar Sources

EROCIC
HIRINC
PLACOL
VIOPED
ESCAL
LOGGAL
HYPGLA
GALAPA
ACMGLA
SALMUN
PLAERE
LOTSTR
LASCOR
LEPNIT
DICCAP
OXACAL
BAHLAC
EROBOT
ANAARV
CALCIL

ERIFAS
Cryptantha
AMSMEN
MIRCAL
BRANIG
SILGAL
CASAFF
ENCCAL
TRIHIR
ERICON
MEDPOL
MATDIS
SISBEL
SISIRI
PRUILI
ERITRI
MELIND
PECLIN
ALLPRA
PHOMEN

SOLPAR
SONOLE
DODCLE
SIDMAL
Sarcostemma
SANBIP
SANARG
CLAPER
Specularia bocconii
PSECAN
SALMEL
PSECAL
FOEVUL
HETARB
LINCAN
DAUPUS
GUTCAL
LUPCON

END: 1545. 79°, wind 0-2, clouds 99%, 0 precip.

3.16.15 TL 649 QCB Surveys 5(1) (Vernal / South)

- Kris Alberts
- START: 1005. 80°, wind 1-4 mph, clouds 50% (thin, hazy), no precip.

Butterflies

funeral duskywing 𝍸

cabbage white |

checkered white 𝍸 ||||

Sara's orange tip ||

CA ringlet 𝍸 ||

Behr's metalmark 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 +~65

painted lady ||

Notes

1. Fairy shrimp + spadefoot tadpoles still in cat.

Flowering Nectar Sources

BRIANIG SISBEL
Astragalus ALLPRA
GLECOR MUIMAR
HYPGLA dcim. exam
EROCIC SIDMAL
LINDIA ERICON
LEPNIT PSECAL
PLACOL ACMGLA
DICCAP MESNOD
MELIND EROBOT
CALSPL LOTSTR
BAHLAC
ENCCAL
BACSAL
ERIFAS
PHACIC
LASCOR
PLAERE
BLOCRO
CASEXS

END: 1500. 91°, wind 4-13 mph, clouds 70% (thin, hazy), no precip

3.18.15 TL 649 QCB Survey 5(2)

- Ian Maunsell, Kris Alberts (Ian until 1115)
- START: 1000. 71°, wind 1-3 mph, clouds 20%, no precip

Butterflies

Sara's orange tip 𝍸 𝍸 |
checkered white 𝍸 𝍸 |
Behr's metalmark 𝍸 𝍸 𝍸 |||
funereal duskywing 𝍸 |||
common buckeye 1
Southern blue 1
fritillary 1
CA ringlet 𝍸 𝍸 𝍸 𝍸 ||||
West Coast Lady 1
marine blue 1
Stripey sphinx moth ||

*No QCB

Nectar Sources

BACSAL
BRANIG
SISIRI
EROCIC
BAHLAC
HYPGLA
MATDIS
EROBOT
HIRINC
DICCAP
ESCCAL
TRIHIR
PHAPAR
ERIFAS
PRUILI
SAMNIG
RHUINT
ACMGLA

SILGAL
SALMUN
DAUPUS
PLACOL
LOTSTR
ENCCAL
DEIFAS
SONOLE
GUTCAL
AMSMEN
Cryptantha sp.
CALMAC
ALLPRA
LASCOR
SIDMAL
SISBEL
ERICON
LUPcon/bic

MIRGAL
OXACAL
PHOMEM
MELIND
SALAPI
CEAOTA
TAMRAM
VERLAS
SANBIA
DODCLE
VIOPED
PSECAL
CALCIL
CLAPUR
MESNOD
PSECAN
SANARG
GLECOR

ANAAR✓
CASAFF
LOGGAL
PECLIN
Gilia
CASEXS
GALAPA

END: 1430. 77°, wind 1-4 mph, clouds 95%, no precip.

Location ______________________ Date ____________

Project / Client ______________________

3.19.15 TL 649 QCB Survey 5(3)

- Kris Alberts
- START: 1015. 70°, wind 1-3 mph, clouds 15%, no precip.

Butterflies

Sara's orange tip |

checkered white |||

Behl's metalmark 𝍸 𝍸 |||

sphinx moth |

CA ringlet 𝍸 𝍸 𝍸 𝍸
𝍸 𝍸 𝍸𝍸 |||

tiger swallowtail |

blue |

funeral duskywing ||||

painted lady |

monarch |

*No QCB

Nectar Sources

HIRINC DICCAP GALAPA Sarcostemma
EROCIC DEIFAS CENMEL MESNOD
BAHLAC ESCCAL SONASP SILGAL
ERIFAS SALMUN TRIHIR SISBEL
PLACOL MIRCAL SILGAL TAMRAM
MELIND AMSMEN GLECOR SAMNIG
LOGGAL Gilia ENCCAL ACMGLA
EROBOT Cryptantha BRANIG VIOPED
HYPGLA SONOLE HIRINC PHACIC
PLAERE SIDMAL CALMAC SALAP
BACSAL ALLPRA LASCOR CASEXS
CALSPL RAFCAL ANTNUT FOEVUL
CALCIL RANCAL SANBIP HARPAL
ANAARV LUPSUC

END: 1530. Temp 75°, wind 3-13 mph, clouds 10%, precip 0.

Date

Project / Client

3·26·15 TL 649 QCB Survey 6(1) (Vernal)
- Kris Alberts. START: 0915, 74°, wind 1-4, clouds/precip 0.

Butterflies

cabbage white 𝍸 |
checkered white 𝍸 𝍸 |||
funeral diwing 𝍸
CA ringlet ||||
𝍸 𝍸 𝍸 𝍸
𝍸 𝍸 𝍸 𝍸
Sara's orangetip 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
Behr's m'mxlk 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸
| 𝍸
anise S'tail |||
West Coast Lady |
Pygmy blue |

* No QCB

Nectar Sources

BRANIG
SISIRI
LINDIA
DICCAP
HYPGLA
CENMEL
EROCIC
SONASP
MARVUL
BAHLAC
ERIFAS
CALSPL
MELIND
CALMAC
ENCCAL
BACSAL
MIRCAL
TAMRAM
ACMGLA
PHACIC
LASCOR
DEIFAS
BLOCRO
SISBEL
PLAERE
FERVIR
CASEXS
SIDMAL
Brodiaea
GLECOR
ERICON
PSECAL
SALGOO
OXACAL
ALLPRA
MUIMAR
SALAPI
MESNOD

END: 1445. 92°, wind 2-11, clouds/precip 0.

Location ______________________ Date ______________

Project / Client ______________________

3·27·15 TL 649 QCB Survey 6(2) N-S/E-W stretch - Kris Albers. START: 0930. 76°, wind 0-2, clouds/precip 0

Butterflies

Behr's metalmark 𝍸 𝍸 𝍸 𝍸 𝍸
𝍸 𝍸 |

checkered white 𝍸 𝍸 𝍸 𝍸 ||||

Sara's orangetip 𝍸 𝍸 |||

cabbage white 𝍸

painted lady ||

orange sulphur |

funereal d'wing |||

Striated queen ||

Square-spotted blue |

CA ringlet 𝍸

* No QCB

Nectar Sources

BAHLAC CASEXS SISIRI
ERIFAS CALSPL PHAPAR
SALAPI VIOPED Cryptantha
GLECOR SILGAL CALMAC
ESCCAL SONOLE SISBEL
HIRINC GALAPA MATDIS
HYPGLA OSMTEN AMSMEN
LOTSTR DEIFAS
DAUPUS TRIHIR
ACMGLA SALMEL
PLACOL CASAFF
DICCAP ENCCAL
RHUINT BAHLAC
EROCIC STYGNA
PLAERE BAESAL
LASCOR TAMRAM
MIRCAL ERICON

END: 1230. 91°, wind 0-4 mph, clouds/precip 0.

Project / Client

3·28·15 TL·649. QCB Survey 6(3)
-Kris Alberts. START: 0940. 70° / wind 0-2 mph; clouds/precip 0 (slight haze)

Butterflies

CA ringlet 卌 卌 卌 卌 卌
卌 |||| 卌 卌 卌
checkered white 卌 卌 卌 卌 |
Sara's orangetip 卌 卌 ||
anise swallowtail |||
painted lady |||
orange sulphur ||
Behr's metalmark 卌 卌 卌 |||
funereal duskywing |||
common buckeye ||
pygmy blue ||

LBVI singing in Otay River
|||

*No QCB

Nectar Sources

GLECOR
Svcashanna
EROCIC
MELIND
MARVUL
HYPGLA
ENCCAL
CENMEL
BRANIG
TAMRAM
SAMNIG
BACSAL
ERIFAS
SISBEL
DICCAP
SONOLE
RHUINT
ANAARV

ERICON
ACMGLA
SANBIP
DEIFAS
CALMAC
RANCAL
BAHLAC
LASCOR
PLACOL
CALSPL
OPULIT
PROGLA
OPUPRO
DEIFAS
ANTNUT
LOTSTR
BLOCRO
SILGAL

SALMUN
SALAPI
CENMEL
DAUPUS
ESCCAL
MESNOD

END: 1410. 83°, wind 2-10 mph, clouds/precip 0%.

Project / Client _______________

3·30·15 TL 649 QCB Surveys 7(1) (Vernal)

✓ Kris Alberts. START: 0950. 68°, wind 1-4 mph, clouds 20% (broken) (hazy) no precip

Butterflies

checkered white 卌 卌 卌 卌
pygmy blue |||
Behr's metalmark 卌 卌 卌 卌 卌 卌 卌 卌
squarespot blue ||
anise Swallowtail 卌
Sara's orangetip ||||
painted lady |
marine blue |
common buckeye ||||
CA ringlet ||||
Behr's (CONT.) 卌 卌 卌 卌
卌 卌 卌 卌
卌 卌 卌 卌
卌 卌 卌

orange Sulphur |
tiger Swallowtail |

* No QCB
* 1 SD button celery ~150' SW top N pole.

Nectars

SISALT PHACIC SILMAR
BAHLAC ACMGLA LYTHYS
EROCIC ANTNUT
HYPGLA LASCOR
MARVUL BLOCRO
GLECOR SISBEL
SONASP MULMAR
SONOLE CASEXS
DEIFAS DAUPUS
LINDIA Brodiaea
PSECAN CALMAC
LASCOR FERVIR
CALSPL ALLPRA
ERIFAS ERICON
ENCCAL SIDMAL
BACSAL SALGOO
CENMEL SALAPI
DICCAP PSECAL

END: 1450. 79°, wind 2-8 mph, clouds/precip 0.

Project / Client

3-31-15 TL 649 QCB Survey 7(2) (N-S/E-W)
- Kris Alberts: START: 1030, 68°, wind 1-4 mph, clouds 20%, 0 precip

Butterflies

Sara's orangetip 𝍸 𝍸 𝍸 𝍸 II
checkered white 𝍸 𝍸 𝍸 𝍸 𝍸
Behr's metalmark 𝍸 𝍸 𝍸 𝍸 III
southern blue I
CA ringlet 𝍸 III
orange sulphur II
funereal duskywing III
painted lady I
checkered white (CONT.) 𝍸 𝍸 II

cabbage white I
callippe fritillary ~~[illegible]~~ II

*No QCB

Nectars

EROCIC
HYPGLA
ACMGLA
BAHLAC
ERIFAS
DAUPUS
DICCAP
HIRINC
ESCAL
SALAPI
SALMUN
LASCOA
CLAPUR
BRANIG
GALAPA
PLACOL
LOTSTR
CASEXS

SONOLE
MIRCAL
CALSPL
ERICON
OSMTEN
DEIFAS
RHUINT
CASAFF
MATDIS
SILGAL
SISBEL
SISIRI
SIDMAL
MESNOD
BLOCRO
CALMAC
GALANG
SANBIP

PSECAL
PHAPAR
ANTNUT
Cryptantha
SIMCHI
CENMEL
MELIND

Patch: a locally generalized area within a larger habitat type with one or more uniquely associated plant species present.

END: 1425 80°, wind 1-3 mph, clouds 30% (local), no precip.

Project / Client

4-2-15 TL 649 QCB Survey 7(3)

- Kris Alberts. START 1045. 68°, wind 1-4, clouds 20%, no precip

Butterflies

Anise Swallowtail ||
Sara's orangetip 𝍸 𝍸 ||
CA ringlet 𝍸 𝍸 𝍸 𝍸 𝍸 ||||
checkered white 𝍸 𝍸 𝍸 𝍸 𝍸
stristed queen |||
funereal duskywing 𝍸 ||
Behr's metalmark 𝍸 𝍸 𝍸
cabbage white |
callipe fritillary
~~[illegible]~~ |
common buckeye ||
West Coast lady |
tiger Swallowtail |

*No QCB

Nectars

GLECOR BACSAL
EROCIC BAHLAC
HYPGLA RANCAL
ENCCAL PLACOL
MELIND MIRCAL
MIRINC LASCOR
BRANIG ANAARV
TAMRAM RHUINT
Sarcostemma MARVUL
SONOLE EROBOT
CALSPL SILGAL
ERIFAS ANTNUT
DEIFAS MESNOD
RHUINT SALAPI
DICCAP SALMUN
BLOCRO LYTHYS
SISBEL CENMEL
SAMNIG Chamaesyce
CALMAC

END: 1505. 75°, wind 2-7 mph, clouds 50% (hazy), no precip.

Location

Project / Client

4.6.15 TL 649 QCB Survey 8(1) (Vernal)

-Seth Reimers, Kris Alberts

START: 0950, 64°, wind 6-7 mph, clouds 0%, [illegible]

Butterflies

anise swallowtail 𝍸 ||

checkered white 𝍸 𝍸 𝍸 |||

Behr's metalmark | 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

common buckeye |

pygmy blue 𝍸

Comstock's fritillary |

West Coast lady |

checkered skipper ||

funereal duskywing |

callippe fritillary, |

[illegible]

pale swallowtail |

* No QCB

Nectars

ERocic CENMEL ERoBoT

BRANIG ANTNUT MESNOD

MARVUL SIMCHI CASEXS

DEIFAS HELANN

ERIFAS LASCOR

RHUINT BLOCRO

BAHLAC FERVIR

SONASP CALMAC

HYPGLA ERICON

SONOLE GALANG

CALSPL SIDMAL

DICCAP SALGOO

OPUPRO SISBEL

TAMRAM ACMGLA

BACSAL Brodiaea

MELIND OSMTEN

ENCCAL Otay tarplant

CALMAC LYTHYS

END: 1420, 69°, wind 2-12 mph, clouds 80% (thin), no precip.

Project / Client

4.8.15

TL 649 QCB Survey 8(2) (N-S/E-W)

- Kris Alberts. START: 1120, 64°, wind 0-3 mph, clouds 10%, no precip (+ no precip night prior)

Butterflies

checkered white 卌 卌 卌 卌 卌 卌

Sara's orangetip 卌 ||||

Marine blue |

Behr's metalmark 卌 卌 卌 卌 |

Callipe fritillary |||

anise swallowtail ||

Striated queen |

cabbage white |

CA ringlet |

orange skipperling |

checkered skipper |

West Coast lady |

pygmy blue |

Square-spotted blue |

*No QCB

NECTARS

DICCAP SALAPI BRANIG

DAUPUS ARTCAL PSECAL

ERIFAS SAMNIG MESNOD

HIRINC ENCCAL MIRCAL

HYPGLA GALANG SILGAL

OSMTEN HETARB SALMUN

BANLAC ERICON Brodiaea

ACMGLA SISBEL VERLAS

CENMEL ANTNUT FERVIR

GALAPA TAMRAM Cryptantha

DELPAS PHAPAR matilija poppy

EROCIC SIDMAL ARCOTA

ESCCAL BACSAL CASAFF

CALSPL ANAARV LASCOR

NAVHAM BLOCRO

PLACOL MATDIS

LOTSTR CALMAC

CASEXS ANAARV

ERITRI CLAPUR

- END: 1500. 68°, wind 1-6 mph, clouds/precip 0.

4.9.15 TL 649 QCB Surveys 8(3) (E-W to Coons Stretch)

- Kris Alberts, Seth Reimers. START: 1000, 65°, wind 1-4 mph, clouds/precip 0%.

Butterflies

West Coast Lady |

checkered white 𝍸 𝍸 𝍸 𝍸 𝍸 || 𝍸 𝍸 𝍸

CA ringlet 𝍸 𝍸 ||

anise swallowtail 𝍸

orange sulphur ||

Behr's metalmark 𝍸 𝍸 𝍸

checkered skipper |

orange skipperling ||

funeral duskywing |||

striated queen |||

painted lady ||

common buckeye ||

callipe fritillary ||

pygmy blue |||

Sara's orangetip |||

* No QCB

Nectars

GLECOR
Sarcostemma
EROCIC
HYPGLA
CENMEL
MARVUL
MELIND
ENCCAL
SIMCHI
BAHLAC
ERIFAS
SALAPI
DEIFAS
BRANIG
TAMRAM
CALSPL
DICCAP
BLOCRO
SAMNIG

RHUINT
CALMAC
PROGLA
OPULIT
SISBEL
MIRCAL
ERICON
LASCOR
RANCAL
ANAARV
ANTNUT
VERLAS
OSMTEN
MESNOD
SALMUN
Chamaesyce
Cryptantha

END: 1445. 78°, wind 1-6 mph, clouds 3%, no precip

4.13.15 TL 649 QCB Surveys 9(1)(√email)
- Kris Alberts, Corrine Klein
- START: 0950. 69°, wind 1-3 mph, clouds/precip 0.

Butterflies

checkered white 卌 卌 卌 卌 卌 卌 卌 卌
funereal duskywing ||
anise swallowtail |||| |||| 卌
Behr's metalmark 卌 卌 卌 卌 卌 卌 卌 卌 卌 卌
pygmy blue 卌 ||||
striated queen |
gray hairstreak 卌
square-spotted blue ||
callipe fritillary |

*No QCB

Nectar Sources

EROCIC
MARVUL
BRANIE
DEIFAS
ERIFAS
GNACAN
BLOCRO
CALSPL
CENMEL
ENCCAL
MALPAR
BAHLAC
DICCAP
HELANN
LASCOR
OSMTEN
ISOMEN

MESNOD
ANTNUT
CALMAC
TAMRAM
SILMAR
ERICON
ACHMIL
SALGOO
SALAPI
Brodiaea
FERVIR
Otay tarplant
CYLPRO
SIDMAL

END: 1520. 77°, wind 4-10 mph, clouds/precip 0.

Date

Project / Client

4.15.15 TL 649 QCB Survey 9(2) (N-S/E-W)

Kris Alberts. START: 1020. 72°, wind 0-2, clouds/precip 0%.

Butterflies

checkered white 𝍸 𝍸 𝍸 𝍸 𝍸
callippe fritillary ||
Sara's orangetip 𝍸
Behr's metalmark 𝍸 𝍸 𝍸
anise swallowtail ||
pygmy blue ||
West Coast Lady |
painted lady |
square-spot blue |

*Mapped host plants in Stretches 2+3.
*No QCB

Nectar Sources

HIRINC SANMAG
BAHLAC ANTNUT
ERIFAS CASAFF
ESCCAL DICCAP
OSMTEN BRANIG
CLAPUR HIRINC
DAUPUS ENCCAL
CALSPL Solanum
ERICON PHAPAR
SALAPI CALMAC
EROCIC ACMGLA
cENMEL GALANG
NAVHAM HETARB
LOTSTR PSECAL
DEIFAS Romneya
HYPGLA
SILMAR
BLOCRO)
MESNOD

END: 1405. 78°, wind 3-8 mph, clouds/precip 0%.

Project / Client

4-17-15 TL 649 QCB Survey 9(3) (Coors)
-Kris Alberts
START: 1000: 74°, wind 2-6 mph, clouds 5%, precip 0

Butterflies

checkered white	𝍸 𝍸 𝍸 𝍸 𝍸 ||| 𝍸
West Coast Lady	|
Sara's orangetip	|||
Behr's metalmark	𝍸 𝍸 𝍸 𝍸 ||||
anise swallowtail	||
Pygmy blue	||
square-spot blue	||
Callippe fritillary	|
CA ringlet	𝍸 |
orange skipperling	|
funereal duskywing	||
Striated queen	||

*No QCB

Nectars

GLECOR	BLOCRO
ENCAL	HYPGLA
EROCIC	MESNOD
TAMRAM	OPULIT
BRANIG	PROGLA
CALMAC	Sarcostemma
DICCAP	SIMCHI
HIRINC	MELIND
SAMNIG	CALSPL
ERIFAS	Chamaesyce
ANTNUT	Cryptantha
CENMEL	VERLAS
OSMTEN	RANCAL
BAHLAC	LASCOR
SALAPI	ERICON
DAUPUS	
DEIFAS	
ACMGLA	
RHUINT	

END: 1450. Temp 78°, wind 2-9 mph, clouds/ precip 0.

Location ______ Date ______

Project / Client ______

4-20-15 TL 649 QCB Survey 10(1) (Vernal)
69°
- Kris Alberts. START: 1000, wind 1-3, clouds 10%, precip 0

Butterflies

checkered white ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
~~||||~~ ~~||||~~ ||||

anise swallowtail |||

Behr's metalmark ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ |

Square-spot blue ~~||||~~ ||||

gray hairstreak ||||

funereal duskywing |

cabbage white |

pygmy blue ~~||||~~ ~~||||~~ |

checkered skipper |

Sara's orangetip |

orange skipperling ||

callipe fritillary |

No QcB

Nectars

DEIFAS OSMTEN
CENMEL MESAND
HIRINC FERVIR
MARVUL DICCAP
EROCIC Brodiaea
ERIFAS Oby toplant
BRANIG SONOLE
BLOCRO ERICON
Vsliegsta
Dudleya GALANG
SAMNIG HETARB
TAMRAM SALAPI
ENCCAL SALGOO
RHUINT LASCOR
SILMAR
BAHLAC
ANTNUT
HELANN
CALSPL
EROBOT
CALMAC

END: 1445. 73°, wind 3-11 mph, clouds 3%, 0 precip.

4-21-15 TL 649 QCB Survey 10(2) (N-S/E-W)
- Kris Alberts. START: 1035. 71°, wind 1-3 mph, clouds 85%, no precip

Butterflies

checkered white 卌 卌 卌 卌 卌 卌
卌
Behr's metalmark 卌
funeral duskywing |||
callippe fritillary 卌
ceraunus blue |
Square-spot blue 卌
Sara's orangetip |
orange sulphur |
striated queen |
checkered skipper |
pygmy blue |||
orange skipperling ||
painted lady ||
marine blue |
anise swallowtail |
gray hairstreak |

*No QCB

Nectars

BAHLAC
ERIFAS
OSM-TEN
DEIFAS
HIRINC
CALSPL
SALAPI
DAUPUS
ESCAL
CENVES conchalagua
NAVHAM
BAHLAC
BLOCRO
CENMEL
SAMNIG
Cryptantha
EROCIC
TAMRAM
HETARB
ENCCAL

ERICON
ACMGLA
CASAFF
GALANG
blue larkspur
SALMUN
ERITRI
HYPGLA
CLAPUR
GLECOR
BRANIG
MATDIS
Romneya
CALMAC
EROBOT
PHAPAR
ANTNUT
MESNOD
SISBEL
PSECAL

DICCAP
SIDMAL

END: 1420. 74°, wind 1-6 mph, clouds 60%, no precip

Project / Client ____________________

4.26.15 TL 649 QCB Survey 10(3) (Coors)
Kris Alberts START: 1100. 69°, wind 0-2 mph, clouds 75%, no precip

[illegible]

<u>Butterflies</u>

checkered white 𝍸 𝍸 𝍸 𝍸 𝍸
𝍸 𝍸 𝍸 𝍸 III
square-spotted blue III
orange skipperling 𝍸 𝍸 II
funereal duskywing III
Behr's metalmark 𝍸
anise swallowtail IIII
Striated queen III
painted lady I
Checkered skipper IIII
acmon blue I
callippe fritillary I
pygmy blue III
common buckeye I
mourning cloak I

* No QCB

<u>Nectars</u>

GLECOR
Sarcostemma
TAMRAM
RHUINT
EROCIC
MARVUL
HIRINC
ENCCAL
ERIFAS
DEIFAS
SALAPI
CENMEL
FOEVUL
BRANIG
SAMNIG
BLOCRO
CALMAC
CYLPRO
PROGLA
SILMAR

HYPGLA
CALSPL
BAHLAC
FERVIR
AMBPSI
oby tarplant
MESNOD
OSMTEN
Chorizanthe
LYTHYS
TETTET
ISOMEN

END: 1500. 78°, wind 1-6 mph, clouds 35%, no precip.

Project / Client

4-27-15 TL 649 QCB Survey II(1) (Vernal)

Kris Alberts. START: 1015. 75°, wind 2-6 mph, clouds 5%, precip 0.

Butterflies

checkered white ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~

anise swallowtail |||

striated queen |

pygmy blue ~~||||~~ ||| ~~||||~~ ~~||||~~ ~~||||~~

Behr's metalmark ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~

checkered skipper ||||

gray hairstreak |

square-spotted blue ~~||||~~ ||

southern blue |

callipe fritillary ||

ceraunus blue |

funereal duskywing |

Nectars

DEIFAS Brodiaea

Dudleya variegata PICECH [redacted]

CENMEL SALAPI

ERIFAS GALANG

EROCIC

CYLPRO

TAMRAM

BAHLAC

MARVUL

BRANIG

SAMNIG

SILMAR

SONOLE

MESNOD

CALSPL

CALMAC

FERVIR

Otay tarplant

BLOCRO

OSMTEN

*Mapped 7 more DUDVAR pts.
~60 total plants (GPS Kit app)

*mapped 2 DUDVIR patches @ S.S.S.

END: 1530. Temp 87°, wind 2-11 mph. clouds | precip 0

Project / Client

4.28.15: TL 649 QCB Survey 1(2) [redacted] (N-S/E-W)

+Kris Alberts, Ian Mansell

-START: 0900. Temp 80°, wind/clouds/precip 0%.

Butterflies

checkered white ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
| ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
common buckeye |
calippe fritillary ~~||||~~ ~~||||~~ ~~||||~~
orange skipperling ||||
pygmy blue ~~||||~~ |
funereal duskywing ||
gray hairstreak ||
Behr's metalmark ~~||||~~
orange sulphur ||
square-spot blue |||

*No QCB

Nectars

ERIFAS MESNOD
GLOCRO PSECAL
ERICON ANTNUT
CENMEL ESCCAL
CALSPL NAVHAM
HIRINC Cryptantha
SALAPI OXACAL
SONOLE CAPPYC
HYPGLA GLECOR
OSMTEN Delphinium
GALANG CASAFF
DEIFAS CENVEN
BAHLAC
HETARB
CALMAC
CLAPUR
EROCIC
EROBOT

END: 1205, 93°, wind 1-4 mph, clouds/precip 0.

4.29.15 TL 649 QCB Survey 11(3) (Coors)

- Kris Alberts, Ryan Meszaros, Carrie Klein
- START: 0930, 77°; wind 0-3 mph, clouds 5%, precip 0.

Butterflies

checkered white 卌 卌 卌 卌
卌 卌 |||
anise swallowtail 卌
square-spotted blue 卌 |
Behr's metalmark 卌 卌 ||
gray hairstreak ||
orange skipperling 卌 卌
pygmy blue ||
orange sulphur 卌 ||
striated queen |
red admiral |
Becker's white |
callippe fritillary |||

Holocarpha virgata (4.2)
slender tarplant

Nectars

GLECOR
TAMRAM
EROCIC
CENMEL
Sarcostemma cynanchoides
ERIFAS
Hedypnois
DEIFAS
SAMNIG
Verbena/Stachys
CALMAC
CYLPRO
CALSPL
BRANIG
ANAARV
FERVIR
HETARB
OSMTEN

SISBEL
Grindelia gumplant
MESNOD
SILMAR
ANTNUT
Chorizanthe
LYTHYS
MESCRV
~~[illegible]~~
HOLVIR
CARPYC

END: 1500, 93°, wind 2-11 mph, clouds 5%, precip 0%

5.4.15 TL 649 QCB Survey 12(1)

- Kris Albertz. START: 1050. 70°, wind 1-6 mph, clouds 98%, no precip.

Butterflies

checkered white ~~||||~~ ~~||||~~ |||

Behr's metalmark ~~||||~~ ~~||||~~ ||

Square-spot blue |

Callipe fritillary |||

funereal duskywing |

pygmy blue | ✓

*No QCB

Nectars

CENMEL
MARVUL
DEIFAS
ERIFAS
DUDVAR
EROCIC
CALMAC
BAHLAC
CYLPRO
TAMRAM
BRANIG
SILMAR
ENCCAL
SONOLE
MESNOD
BLOCRO
CALSPL
HETARB
OSMTEN
POLAVI knotweed

SALGOO
SALLAS
CENVES

END: 1445. 71°, wind 7-15 mph, clouds 95%, precip 0.

5.5.13 TL 649 QCB Survey 12 (2)
- Kris Alberts. START: 1150. 73°, wind 1-5 mph, clouds 60%, precip 0.

Butterflies

checkered white ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~
~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ |||
callippe fritillary ~~||||~~ ~~||||~~
square spot blue |||
Behr's metalmark ~~||||~~ |
pygmy blue ~~||||~~
marine blue. |
CA ringlet ||
anise swallowtail |
funereal duskywing |

Nectars

OSMTEN BRANIG
BAHLAC CHLFIL
ERIFAS CARPYC
CENVES SAMNIG
SALAPI TAMRAM
HIRINC ENCCAL
CENMEL SALMON
DEIFAS Delphinium
NAVHAM
CYLPRO
CALSPL
MESNOD
BLOCRO
ERICON
CALMAC
PSECAL
crete weed
GALANG
HETARB
ISOMEN

END: 1500. 76°, wind 2-7 mph, clouds 70%, precip 0.

2/24/15 ~32.586
-116.939

1015, 66°, 4-7mph, Clear

1250, 68°, 6-12mph, clear

T. Cooper, I. Maunsell

Chambers QCB Survey #2 TL 649: Loc 82-102 + SS25

Just West of Donovan Corr. Fac., San Diego, CA

~14ac.

Butterflies

Berh's mm	☒ ☒ ☒ ☒ L:
Lady sp.	☒ ☒
Pigmy Blue	☐
Blue sp.	:
West Coast Lady	:

Flowering Plants

Erodium spp.
SIDSPA
BRANIG
ERICON
SISBEL
LASGRA
MUIMAR
DICCAP
ALLPRA
ERIFAS
BAHLAC

Host Plants

PLAERE - flowering .5-4in patchy -1000's

CAS DEN - flowering ~4-6in. patchy, 10's
Edith's checkerspot Host

* NO QCB observed.

1

0840, 61°, 3-6mph, clear
1240, 70°, 4-7mph, clear

3/4/15

T. Cooper

Chamber QCB Survey #3

TL 649 ; Loc 82-102 + SS25

San Diego, CA ~14ac.

Butterflies

Bern's	☒ ☒ ☒ ∶
Pigmy Blue	⁘
Lady sp.	⁝ ∶
Sulfer sp.	∶
Cal. Ringlet	⌐ ∶
Red Admiral	•
Fun Dusky	⁝
Painted Lady	•
Buckeye	•

Flowering Plants

LASGRA
SIDSPA
SISBEL
ALLPRA
DICCAP
ERIFAS
BAHLAC
MUIMAR
DUDCLE

Host Plants

PLAERE - flowering 2-6in.
CASDEN - Edith's checkerspot host.

* NO QCB observed.

5/10/15 1005, 70°, clear, 1-6mph
1400, 76°, clear, 3-8mph

T. COOPER

Chambers QCB Survey #

TL 649: Loc. 18-70 San Diego, CA

Butterflies

checkered white ⊠ ⊠ ⊠ ⊠ ⊠ ⌊⌋
Comstocks Fritillary ⌊⌋
Orang Sulfer :
Anise Swallowtail :.
Acmon Blue :.

*No QCB observed

Host Plants

Host plant completly senesced.

Flowering Plnts

CALMAC
ERIFAS
BLOCRO
DEICON
BRANIG
HIRINC
FRANCYN
DEIFAS

APPENDIX K – WETLAND DELINEATION REPORT

Jurisdictional Delineation Report for Tie-Line 649 Wood-to-Steel Pole Replacement Project

Prepared by:

San Diego Gas & Electric (SDG&E)
8315 Century Park Court, CP21E
San Diego, CA 92123

Contact: Ms. Tamara Spear

April 28, 2015

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Attachment 2: Vernal Pool Descriptions
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  1: Regional Location of the TL649 Wood to Steel Project
  2: USGS Map of the TL649 Wood to Steel Project
  3: Aerial Photograph of the TL649 Wood to Steel Project
  4: Soil Types within the TL649 Wood to Steel Project
  5: Jurisdictional Resources within the TL649 Wood to Steel Project
Attachment 5: Field Data Forms

Chapter 1 - Summary of Findings

RECON Environmental, Inc. (RECON) and Chambers Group, Inc. (Chambers Group) aquatic resource specialists conducted a jurisdictional delineation along approximately seven miles of transmission line (TL) 649 in southern San Diego County. Methods for delineating wetlands followed guidelines set forth by the U.S. Army Corps of Engineers ([ACOE] 1987), including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid Supplement; ACOE 2008). All figures depicting the project location and results of the survey are shown in Attachment 1.

A total of 5.55 acres of ACOE jurisdictional waters were delineated within the survey area. Of these, 4.45 acres are considered ACOE wetland waters of the U.S. (of which 0.80 acre are vernal pool wetlands), and 1.09 acres are considered ACOE non-wetland waters of the U.S. Although not formally delineated, an additional 11.74 acres of San Diego Mesa Claypan vernal pool habitat were identified to occur within the survey area and likely support jurisdictional ACOE vernal pool wetland waters of the U.S.

California Department of Fish and Wildlife (CDFW) jurisdictional waters total 5.79 acres within the survey area. Of these, 1.09 acres are considered CDFW unvegetated streambed and 4.70 acres are considered CDFW riparian. CDFW does not take jurisdiction over project vernal pools via the 1600 streambed alteration program.

A total of 5.55 acres of Regional Water Quality Control Board (RWQCB) waters of the State were delineated within the survey area. The RWQCB waters of the State include 0.80 acre of vernal pools. Although not formally delineated, an additional 11.74 acres of San Diego Mesa Claypan vernal pool habitat were identified to occur within the survey area and likely support jurisdictional RWQCB waters of the State vernal pools.

Impacts to jurisdictional waters would require a Section 404 permit from ACOE, a Streambed Alteration Agreement from CDFW, and a 401 water quality certificate from the RWQCB.

Chapter 2 - Proposed Project

San Diego Gas and Electric (SDG&E) proposes to replace wooden transmission poles along approximately seven miles of TL 649 in southern San Diego County. TL 649 is part of SDG&E's efforts to increase system reliability and reduce risk associated with potential fire events. The project would fire-harden TL 649, an existing 69-kilovolt wood transmission line, by replacing approximately 116 existing wood structures with galvanized steel poles. The new galvanized steel poles will be directly embedded or supported by either micropile or pier concrete foundations. The project also includes the reconductor of the associated distribution line with 636 aluminum conductor steel support/alumaweld conductor and the use of access roads, stringing sites, guard structures, and staging yards.

The project is located within the city of Chula Vista, the city of San Diego, and the unincorporated San Diego County community of Otay Mesa (Figure 1). The survey area spans various sections within Township 18 South, Range 01 West of the Imperial Beach and Otay Mesa quadrangle U.S. Geological Survey (USGS) maps (USGS 1971, 1975; Figure 2). Within the Imperial Beach quadrangle, the survey area spans Sections 19 and 20. Within the Otay Mesa quadrangle, the survey area spans Sections 13, 24, and 25, as well as an unsectioned portion of the Otay (Estudillo) Land Grant. The survey area generally follows the Otay River floodplain and occurs within undeveloped open space, with the exception of minor agricultural uses and development.

As the project area has the potential to contain federal and state jurisdictional waters, SDG&E requested a jurisdictional delineation to be conducted. The purpose of this jurisdictional delineation is to identify and map the location of jurisdictional waters to provide necessary background information for avoidance measures by engineering and for analysis by ACOE, CDFW, and the RWQCB if permits are required.

Chapter 3 - Regulatory Overview

3.1 ACOE WETLANDS

According to the ACOE Wetland Delineation Manual, wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to ACOE, indicators for all three parameters must be present to qualify as a wetland.

Vernal pools are defined in the Arid Supplement as “small, temporarily and seasonally ponded depressions found in a variety of landscapes where they are usually underlain by an impermeable layer such as a hardpan, claypan, or basalt. Vernal pools often fill and empty several times during the rainy season.” As vernal pools are a type of wetland, they also were delineated using the three parameters, this methods is further discussed in Section 3.1.2.

3.1.1 Regulatory Definition

In accordance with Section 404 of the Clean Water Act (CWA), ACOE regulates the discharge of dredged or fill material into waters of the United States. The term “waters of the United States” is defined as:

- All waters currently used, or used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect foreign commerce including any such waters, (1) which could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are, or could be, taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industries in interstate commerce;
- All other impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified above;
- The territorial seas; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above (33 Code of Federal Regulations [CFR] Part 328.3[a]).

3.1.2 Wetland Parameters

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology, and hydric soils. According to ACOE, indicators for all three parameters must be present to qualify as a wetland.

3.1.2.1 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” (ACOE 1987). The potential wetland areas within the survey area were surveyed by walking through the project site and making observations of those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation units with potential wetland areas were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on the datasheet provided in the Arid Supplement (ACOE 2008). The percent absolute cover of each species present was visually estimated and recorded.

The wetland indicator status of each species recorded was determined by using the National Wetland Plant Inventory (Lichvar, et. al. 2014). An obligate (OBL) indicator status refers to plants that are almost always a hydrophyte and rarely in uplands. A facultative wet (FACW) indicator status refers to plants that usually are a hydrophyte, but are occasionally found in non-wetlands. A facultative (FAC) indicator status refers to plants that commonly occur as either a hydrophyte or non-hydrophyte. Facultative upland (FACU) species occasionally are a hydrophyte, but usually occur in uplands. Upland (UPL) species almost always occur in uplands, and rarely are a hydrophyte. A not indicated (NI) status refers to species that have insufficient data available to determine an indicator status at this time, for the local region.

Plant species nomenclature follows that contained in *the Jepson Online Interchange* (Jepson Flora Project 2014). Dominant species with an indicator status of NI or not listed in the 2014 list were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats characteristic of southern California.

3.1.2.2 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 (ACOE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (ACOE 2008). The hydric soil criterion is considered fulfilled at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation exists, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present.

A sampling point was selected within a potential wetland area where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. The soil pit was dug to a depth of at least 18 inches or to a depth necessary to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, gleying, and sulfidic odor). In areas where the direct examination of soil pits were precluded by the pretense of federally endangered species (i.e., fairy shrimp), hydric soils were inferred based on the presence of vegetation and hydrology indicators (see Section 4.1.3.1, Vernal Pools, below).

3.1.2.3 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 (ACOE 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 fulfilled 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 (ACOE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample point, the wetland hydrology criterion is considered fulfilled.

3.1.3 Atypical Situations

The definition of a wetland includes the phrase “under normal circumstances” because there are situations in which one or more of the wetland parameters has been removed or altered as a result of recent natural events or human activities (ACOE 1987). To describe these conditions, ACOE uses definitions for atypical situations and problem areas. They are as follows:

> Atypical situation: . . . refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter (ACOE 1987).

> Problem areas: . . . wetland types in which wetland indicators of one or more parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events. Representative examples of problem areas include seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats (ACOE 1987).

Atypical situations and problem areas may lack one or more of the three criteria and still may be considered wetlands. Background information on the previous condition of the area, field observations, and/or the identification of undisturbed reference sites adjacent to atypical sites may indicate that the site met the wetland criteria prior to disturbance. Additional delineation procedures would be employed if normal circumstances did not occur on a site.

Atypical situations within the survey area include unpaved access roads where intense vehicular use has eliminated or damaged evidence of hydrophytic vegetation and hydrology indicators.

3.1.4 Vernal Pools

Vernal pools are considered “problem areas” because vegetation or hydric soils may be lacking due to the seasonal filling and drying of vernal pools. As described in the Arid Supplement “the species composition of some wetland plant communities in the Arid West can change in response to seasonal weather patterns and long-term climatic fluctuations. Wetland types that are influenced by these shifts include **vernal pools**, playa edges, seeps, and springs. Lack of hydrophytic vegetation during dry periods should not immediately eliminate a site from further consideration as a wetland.” In addition, when soil investigations are performed within vernal pools, vernal pools may also lack hydric soil indicators as they support seasonally ponded soils, described under problem soils as “seasonally ponded, depressional wetlands occur in basins and valleys throughout the Arid West. Most are perched systems, with water ponding above a restrictive soil layer, such as a hardpan or clay layer, that is at or near the surface (e.g., in Vertisols). Some of these wetlands lack hydric soil indicators due to limited saturation depth, saline conditions, or other factors.”

3.2 ACOE NON-WETLAND WATERS

The ACOE also requires the delineation of non-wetland jurisdictional waters of the U.S. These waters must have strong hydrology indicators such as the presence of seasonal flows and an ordinary high watermark. An ordinary high watermark is defined as:

> . . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank,

> shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR Part 328.3).

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric soil characteristics. Hydric soil indicators may be missing because topographic position precludes ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the ordinary high watermark of the particular drainage or depression.

CDFW Jurisdictional Waters

Under Sections 1600–1607 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., riparian woodland) associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. Although CDFW does not regulate vernal pools under Section 1602 of the Fish and Game Code, CDFW will assert jurisdiction over vernal pools if California state threatened and/or endangered species are present via the California Endangered Species Act.

3.3 RWQCB JURISDICTIONAL WATERS

RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes waters of the state as mandated by both the federal CWA Section 401 and the California Porter-Cologne Water Quality Control Act. If a potential vernal pool meets the ACOE wetland criteria, but is considered an isolated water by the ACOE, the RWQCB asserts jurisdiction under the Porter-Cologne Water Quality Control Act.

Chapter 4 - Methods

A jurisdictional delineation, following the guidelines set forth by ACOE (1987, 2008), was performed to gather field data at potential wetland and waters of the U.S. and State sites in the survey area. To account for all potential project impact areas and provide a greater landscape context to sensitive aquatic resources, the survey area includes a 150-foot buffer from the center of the transmission line, a 20-foot buffer on either side of all access roads, and a 50-foot buffer surrounding temporary project features such as staging yards and stringing sites (Figure 3). RECON wetland specialists Michael Nieto, J.R. Sundberg, and Cailin O’Meara delineated jurisdictional waters on the 336.8-acre survey area on May 14 and 22, 2014. Additional site visits were conducted on July 28 and November 3, 2014 to assess jurisdictional waters within the additional project areas to investigate potential vernal pools. Chambers Group wetland specialists Ian Maunsell and Christina Congedo; ICF wetland specialist Lanika Cervantes; and SDG&E Aquatic Resource Specialist Tamara Spear conducted an additional site visit on March 20, 2015.

Prior to conducting the field delineation, the following sources were consulted to identify land use history and provide additional context to potentially atypical and problematic jurisdictional wetlands within the project area, including:

- USGS Otay Mesa quadrangle topographic map (USGS 1971)
- USGS Imperial Beach quadrangle topographic map (USGS 1975)
- Historical aerial photographs (www.historicaerials.com)
- National Wetland Inventory (USFWS 2014a)
- California Natural Diversity Database (CNDDB) search for sensitive vernal pool endemic species (State of California 2014)
- USFWS Critical Habitat for San Diego Fairy Shrimp (USFWS 2014b)
- USFWS Critical Habitat for Spreading Navarretia (USFWS 2014b)
- Draft Otay Mesa Vernal Pool HCP mapping (San Diego Association of Governments [SANDAG] 2014)
- Otay Ranch Preserve Fairy Shrimp Surveys (RECON 2013)
- Transmission Construction and Maintenance (TCM) 2009 Vernal Pool Data Accuracy Assessment Report (AECOM 2009)

Once on-site, the potential wetland sites were examined to determine the presence of any of the three wetland parameters or drainage channels. Soil type and classification data used in the delineation were provided by the Natural Resource Conservation Service’s web soil survey (U.S. Department of Agriculture [USDA] 2014).

Potential waters and wetland locations observed within the survey area were evaluated using the methodology set forth in the ACOE Wetland Delineation Manual (ACOE 1987) and the Arid Supplement (ACOE 2008). Wetland hydrology indicators included evidence of inundation, saturation, watermarks, drift lines, and sediment deposits. Vegetation was analyzed using dominant species' wetland indicator status (ACOE 2014). Suspected jurisdictional areas were evaluated for the presence of definable channels, wetland vegetation, an ordinary high water mark, and connectivity to a traditional navigable waterway (TNW).

As the survey was conducted during a drought year, likely wetland areas without persistent wetland vegetation were treated as "problem areas" and analysis was adjusted accordingly.

4.1 VERNAL POOL BASELINE SURVEYS, 2009-2011

Surveys assessing potential vernal pools located within the dirt access road associated with TL649 were initially conducted by Scott McMillan with AECOM in 2009 and were recorded in the 2009 Vernal Pool Data Accuracy Assessment Report. The 2009 effort included a detailed assessment of vernal pool resources within and adjacent to SDG&E access roads. While faunal diversity and hydrology were evaluated, methods for the 2009 survey report focused on use of endemic vernal pool flora to define vernal pool basins. For the purpose of the 2009 Vernal Pool Data Accuracy Assessment, a vernal pool was considered to be any basin area supporting at least one indicator plant species (included in Appendix 2 of the 2009 Vernal Pool Accuracy Assessment Report). Follow-up surveys using the same protocol were conducted by AECOM and Chambers in 2010 and 2011. The data from these surveys, 2009-2011, was used as a baseline for assessing vernal pools in the 2014 and 2015 vernal pool surveys.

4.2 2014/2105 VERNAL POOL EVALUATIONS

All vernal pools previously described and mapped during the 2009-2011 baseline surveys were observed and documented. Although no formal wetland data sheets were completed for baseline pools, conditions of known baseline vernal pools were documented and photographed as reference sites for vernal pool evaluations.

Due to the location of most baseline pools within existing utility service roads, some baseline pools were observed to have shifted or expanded, likely due to vehicular disturbance. Where known vernal pools were observed to have shifted or expanded, the limits of the baseline pools were updated to reflect the current extent of the jurisdictional area based on endemic floral species and hydrological indicators such as surface soil crack, ponding, or saturation. The previously described limits of 2009-2011 baseline vernal pools were not reduced in size during the 2014 and 2015 field surveys.

Following evaluation of the baseline vernal pools, the remainder of the survey area was evaluated for basins supporting or potentially supporting vernal pool indicator species. Vernal pools located within access roads are subject to continuous vehicular disturbance and can, in the absence of vegetation, constitute an "atypical situation." In addition, the surveys were conducted after three consecutive drought years. Therefore, alternative methods described in the Arid Supplement were used to delineate wetland areas. When endemic flora was not observed within a basin due to presumed disturbance, presence of endemic flora was assumed if the basin was within proximity to known/mapped vernal pool complexes.

Road ruts were differentiated from jurisdictional disturbed vernal pools if they met the following criteria:

1) They did not occur within or adjacent to known or historic vernal pool complexes;

2) They occur within areas not typically associated with vernal pools (i.e., cut roads within hillsides, along a hillslope);

3) They were unvegetated or dominated by upland vegetation; and

4) They were not included in the 2009 through 2011 baseline surveys (these older surveys were conducted during normal or near normal rain seasons and therefore, vernal pool determinations made during these previous surveys were upheld during the current field efforts).

Soil tests pits were not dug within potential vernal pools due to the documented presence of the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*; AECOM 2009). Hydric soils in vernal pools were inferred based on the presence of hydrology indicators (basin). Vernal pool watersheds were visually based on changes in the local microtopography and documented using a sub-meter global positioning system.

Chapter 5 - Results of Field Survey

A description of the major vegetation units observed, soil types encountered, and a discussion of the local hydrology in the project area are presented below. Copies of the field data forms summarizing information on vegetation, soils, and hydrology observed at each sample site are provided in Attachment 2.

5.1 VEGETATION

A total of thirteen vegetation communities and land cover types occur in the survey area. Of these, five vegetation communities support hydrophytic vegetation: riparian scrub, riparian forest, vernal pool, disturbed wetland, and meadow/seep.

5.1.1 Areas Supporting Hydrophytic Vegetation

5.1.1.1 Vernal Pool Complex (44000)

Vernal pool complex vegetation occurs within the survey area. This vegetation community was mapped at a landscape scale and includes both vernal pool basins and associated, interstitial, uplands within the vernal pool complex. Uplands and wetlands within a vernal pool complex are often ecologically related (species dispersal, pollination, water quality, etc.) and are commonly mapped as a single unit. Vernal pools are seasonally flooded depressions often associated with hummocks or mima-mound-topography. Vernal pools often support endemic plant and animal species adapted to extreme variability in hydrologic conditions (Oberbauer et al 2008). Plant species present in the vernal pool complexes within the survey area include woolly marbles (*Psilocarphus brevissimus,* OBL), annual beard grass (*Polypogon monspeliensis,* FACW), and Italian ryegrass (*Festuca perennis*, FAC). Areas with this vegetation type within the project area include the entirety of coastal mesas with mima-mound-topography and some depressions within access roads on a clay terrace near the Otay river floodplain.

5.1.1.2 Meadow/Seep (45400)

Meadow/seep vegetation is dominated by low-growing, perennial wetland species. This vegetation community is often found in previously disturbed areas where wetland species have not yet fully established (Oberbauer et al 2008). Species within the emergent wetland include Italian ryegrass, beardless wild-rye (*Elymus triticoides*, FAC), and common rush (*Juncus effusus,* FACW).

5.1.1.3 Riparian Scrub (63000)

Riparian scrub vegetation is dominated by small trees or shrubs typically in major river systems where flood scour occurs (Oberbauer et al 2008). Typical species within the survey area include San Diego marsh elder (*Iva hayesiana,* FACW), desert fragrance (*Ambrosia* [=*Hymenoclea*] *monogyra*, UPL), and mule fat.

5.1.1.4 Riparian Forest (61000)

Southern willow scrub vegetation is characterized by dense willow (*Salix* sp.) stands and repeated flooding (Oberbauer et al 2008). The riparian forest within the survey area is dominated by arroyo willow (*Salix lasiolepis*, FACW).

5.1.1.5 Disturbed Wetland (11200)

Disturbed wetland vegetation may contain native and non-native species and occurs in perennial or ephemeral wetlands that have been modified by human activity (Oberbauer et al 2008). Characteristic weed species within the survey area include salt cedar (*Tamarix ramosissima,* UPL) and fennel (*Foeniculum vulgare*, UPL). Some native species, including San Diego marsh elder, blue elderberry (*Sambucus nigra,* FAC), and desert fragrance, are also present.

5.1.2 Areas Lacking Hydrophytic Vegetation

A total of 10 upland vegetation communities and land cover types occur within the survey area: Diegan coastal sage scrub, maritime succulent scrub, valley needlegrass grassland, non-native grassland, Tecate cypress forest, southern mixed chaparral, disturbed habitat, bare ground, urban/developed, and landscaped/ornamental. These vegetation communities and land cover types are generally composed of upland plant species, bare ground, and/or development, and do not meet the hydrophytic vegetation criteria for wetlands.

5.2 SOILS

A total of eight soil series mapped by USDA (1973) occur in the survey area: Diablo, Gravel Pits, Linne, Olivenhain, Riverwash, Salinas, Stockpen, and Visalia (Figures 4-1 through 4-18). The acreages of these soil series are listed in Table 1.

TABLE 1: ACREAGES OF SOIL SERIES FOUND WITHIN THE SURVEY AREA

Soil Series	**Acres**
Diablo – suitable for supporting vernal pools	
clay, 2 to 9 percent slopes	19.36
clay, 9 to 15 percent slopes	55.57
clay, 15 to 30 percent slopes	54.06
clay, 30 to 50 percent slopes	30.75
Gravel pits	3.87
Linne – suitable for supporting vernal pools	
clay loam, 9 to 30 percent slopes	27.32
Olivenhain – suitable for supporting vernal pools	
cobbly loam, 2 to 9 percent slopes	17.33
cobbly loam, 9 to 30 percent slopes	3.32
cobbly loam, 30 to 50 percent slopes	27.50
Riverwash	15.88
Salinas	
clay loam, 0 to 2 percent slopes	1.54
clay loam, 2 to 9 percent slopes	44.04
clay, 0 to 2 percent slopes	0.54
Stockpen – suitable for supporting vernal pools	
gravelly clay loam, 0 to 2 percent slopes	28.12
Visalia	
gravelly sandy loam, 2 to 5 percent slopes	7.58

5.2.1 Soils Considered Suitable for the Formation of Vernal Pools

Soil series were evaluated for suitability for vernal pool formation based on slope and permeability. Soils with less than 10 percent slopes and an impermeable subsurface layer (0.06 inch per hour or less permeability) are considered suitable for the formation of vernal pools (Bauder and McMillan 1998). A total of five soil series contained slopes and permeability that were considered suitable for the formation of vernal pools: Diablo, Linne, Olivenhain, Salinas, and Stockpen.

- The Diablo series consists of well-drained moderately deep to deep clays derived from soft calcareous sandstone and shale. These soils are found on uplands (USDA 1973). This soil series meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This soil series is scattered throughout the survey area at elevations of 160 to 600 feet.

- The Linne series consists of well-drained, moderately deep clay loams derived from soft calcareous sandstone and shale. At 9 to 30 percent slopes, this soil type is characterized as rolling to hilly soil on uplands (USDA 1973). This soil type meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This series occurs in the western and eastern portions of the survey area at elevations from 160 to 590 feet.

- The Olivenhain series consists of well-drained, moderately deep to deep cobbly loams with very cobbly clay subsoil. This series developed in old gravelly and cobbly alluvium and are located on dissected marine terraces. Mima mounds associated with vernal pool complexes are known to occur in many areas where the 2 to 9 percent slopes subcategory occurs (USDA 1973). This soil series is also known to support vernal pools in San Diego County coastal mesas and meets the permeability criteria for vernal pools at slopes of less than 10 percent (Bauder and McMillan 1998). This series occurs throughout the survey area soils at elevations from 160 to 540 feet.

- The Stockpen series consists of moderately well-drained, moderately deep gravelly clay loams located on marine terraces (USDA 1973). This soil series meets the permeability criteria for vernal pools at slopes of less than 10 percent and is known to support vernal pools in Otay Mesa (Bauder and McMillan 1998). This soil type occurs in the northeastern portion of the survey area at elevations of 520 to 560 feet and contains the highest amount of vernal pools of any soil series within the survey area.

5.2.2 Soils Not Considered Suitable for the Formation of Vernal Pools

Soils with greater than 10 percent slopes and a permeable subsurface (greater than 0.06 inch per hour) were not considered suitable for the formation of vernal pools (Bauder and McMillan 1998). A total of three soil series were not considered suitable for the formation of vernal pools:

- Gravel Pits consist of areas that have been excavated for sand or gravel. The areas are mostly on broad outwash plains and terraces of stream valleys. The gravel pits within the survey area are likely associated with the gravel mining that occurs within the Otay River Valley. This series occurs at elevations of 170 to 190 feet.

- The Riverwash series occurs in intermittent stream channels and is typically sandy, gravelly, or cobbly (USDA 1973). This soil type occurs in the Otay River Valley in the central and northeastern portion of the survey area at elevations of 200 to 300 feet.

- The Visalia series consists of very deep sandy loams underlain by loam and sandy loam derived from granitic alluvium. It occurs on alluvial fans and flood plains (USDA 1973).

This soil type occurs in the northeastern portion of the survey area at elevations of 280 feet.

5.3 HYDROLOGY

The project occurs within a dissected coastal mesa and canyon system on the southern bank of the Otay River near Otay Mesa. Topography within the project area includes steep canyon slopes, ephemeral drainages, river terraces, vegetated riparian valleys, and clay coastal mesas. The project area generally occurs within undeveloped open space, with the exception of minor agricultural uses within the Otay River floodplain. Coastal mesas within the project are either developed (residential) or contain vernal pool complexes of varying size and quality. Larger intact canyon systems within the project area (e.g., Johnson Canyon, O'Neal Canyon, Dennery Canyon) generally contain riparian scrub vegetation, while smaller drainage systems in the area typically contain ephemeral drainages or vegetated swales with intermittent evidence of wetland hydrology. All drainages and wetlands in the area are within the Otay River watershed and have direct hydrologic connectivity to the Otay River. The Otay River flows into the Pacific Ocean (a TNW via San Diego Bay, 5.9 miles west of the project site).

Vernal pools and their associated watersheds were observed on project access roads at several locations within the survey area. A majority of the vernal pools occur on clay mesa tops dissected by large drainages in the eastern portion of the project area. The remaining vernal pools occur within the access road that runs east-west on a clay river terrace on the southern bank of the Otay River.

5.3.1 Otay River Floodplain

The survey area is located primarily on the southern bank of the Otay River floodplain. The Otay River flows west through the survey area to the Pacific Ocean, where it empties into Egger Highlands at the San Diego Bay National Wildlife Refuge.

5.3.2 Tributaries & Natural Drainages

The survey area contains three major tributaries to the Otay River: Dennery Canyon, O'Neal Canyon, and Johnson Canyon. All three drainages flow north into the Otay River, a Relatively Permanent Water (RPW), and, ultimately, the Pacific Ocean, a TNW. Various smaller unnamed ephemeral drainages occur scattered throughout the survey area and drain north into the Otay River. There were 21 jurisdictional features identified in the survey area. The access road crosses through drainages at 12 of the above mentioned 21 locations.

5.3.3 Clay-pan Mesa Vernal Pool Complex

The northeastern portion of the survey area is located on mesa tops dissected by drainages. The mesa tops contain access roads with clay-pan vernal pools formed from road ruts. The roads are further surrounded by vernal pool complexes characterized by mima-mound-topography. These vernal pool complexes generally drain south and north into drainages associated with the Otay River, an RPW, via subsurface flows and/or sheet flow.

5.3.4 Man-made Structures

Man-made structures within the project area include concrete brow ditches and energy dissipaters. In the central portion of the survey area, the brow ditch and energy dissipater were constructed to drain an upland fill slope of a freeway bridge abutment. Water conveyed by the brow ditch and energy dissipater sheet flows across a maintained, concrete Arizona crossing onto an existing project access road and dissipates into upland.

5.3.5 Swales

Nine swales were identified in the survey area. Water conveyed by the swales sheet flow across existing unpaved, unculverted access roads and dissipate into upland.

5.3.6 Erosional Feature

One erosional feature occurs within the southern portion of the survey area. The erosional feature consists of a ditch that runs parallel to the access road and drains into upland.

5.3.7 Road Ruts

Road ruts occur within the survey area on access roads that are generally flat, unpaved, and underlain by clay soils. Rutting occurs when heavy equipment compresses and/or displaces saturated soils to form linear cavities within the access road footprint. Locations of road ruts on the project site were observed to change over time. Road rutting is a dynamic process and depends on soil saturation, soil type, as well as frequency and type of vehicular traffic. Although deep road ruts will exhibit seasonal depressional hydrology and may act as habitat for sensitive vernal pool fauna such as fairy shrimp which can indicate seasonal ponding (i.e., be an indicator for hydrology), they are generally not considered jurisdictional vernal pools.

Chapter 6 - Jurisdictional Delineation

Figures 5-1 through 5-18 identify the locations of ACOE, CDFW, and RWQCB jurisdictional waters within the survey area. Table 2 summarizes the acreages of each jurisdiction.

TABLE 2: EXISTING JURISDICTIONAL WATERS WITHIN THE SURVEY AREA

Jurisdictional Waters	Acres
ACOE Jurisdiction	
Wetlands total	4.45
Vernal Pool Wetlands	0.80
Riparian Scrub	2.50
Southern Willow Scrub	0.53
Disturbed Wetland	0.24
Emergent Wetland	0.38
Non-wetland waters of the U.S.	1.09
ACOE Total Jurisdiction	**5.55**
CDFW Jurisdiction	
Riparian	4.70
Riparian Scrub	3.63
Southern Willow Scrub	0.53
Disturbed Wetland	0.24
Emergent Wetland	0.30
Unvegetated Streambed	1.09
CDFW Total Jurisdiction	**5.79**
RWQCB Jurisdiction	
Wetland Waters of the State	4.45
Vernal Pool Wetlands	0.80
Riparian Scrub	2.50
Southern Willow Scrub	0.53
Disturbed Wetland	0.24
Emergent Wetland	0.38
Non-wetland waters of the State	1.09
RWQCB Total Jurisdiction	**5.55**

6.1 ACOE JURISDICTION

ACOE jurisdictional waters total 5.55 acres, including 4.45 acres of wetlands (of which 0.80 acres of vernal pool wetlands were observed) and 1.09 acre of non-wetland waters of the U.S.

6.1.1 Wetlands

A total of 4.45 acres of jurisdictional wetlands were delineated within the survey area. Jurisdictional wetlands within the survey area consist of coastal and valley freshwater marsh, emergent wetland, southern willow scrub, disturbed wetland, and vernal pool wetlands.

6.1.1.1 Vernal Pool Wetlands

Of the 0.80 acre delineated as vernal pool wetlands, fifty-two vernal pools were identified in the surveys and are likely considered jurisdictional by ACOE and RWQCB. Of these vernal pools, eight are naturally occurring (i.e., not located within an access road and; therefore, undisturbed), and the remaining disturbed vernal pools occur within existing access roads. Of these disturbed vernal pools, six are unvegetated and thirty-eight are vegetated.

According to the CNDDB, two access roads within the project survey area (adjacent to the Donovan state prison) occurs on a mesa top within documented occurrences of the federal and state endangered ACOE vernal pool botanic indicator species, Otay Mesa mint (*Pogogyne nudiuscula*) and San Diego button celery (*Eryngium aristulatum* var. *parishii*).

6.1.2 Non-wetland Waters of the U.S.

A total of 1.09 acres of ACOE non-wetland waters of the U.S. occur within the survey area. The non-wetland waters consist of ephemeral drainages. These drainages contain an ordinary high watermark and display connectivity to the Otay River, a RPW.

6.1.3 Non-Jurisdictional Features

Road ruts, swales, erosional features, and man-made features do not meet the definition of an ACOE water of the U.S. (i.e., contain an OHWM or three parameter wetland), as they typically dissipate within uplands and do not exhibit connectivity to a TNW. These features are also not considered RWQCB jurisdictional as RWQCB follow ACOE guidance for delineation of waters of the State. In addition, these features do not support a bed and bank and therefore, are not considered jurisdictional by CDFW.

A small patch of riparian scrub was mapped on a project staging yard; however, it is only sparse riparian vegetation that is colonizing a constructed, upland fill slope fed by irrigation runoff. This area does not meet a three parameter wetland nor is it associated with a streambed or lake and therefore, is likely not considered jurisdictional by ACOE, RWQCB, or CDFW.

6.2 CDFW JURISDICTION, SECTION 1600 OF THE CALIFORNIA DEPARTMENT OF FISH AND GAME CODE, STREAMBED ALTERATION AGREEMENT

CDFW jurisdiction within the survey area totals 5.79acres, which includes 1.09 acres of CDFW streambed and 4.70 acres of CDFW riparian. CDFW streambed within the survey area consists of unvegetated streambed. CDFW riparian includes 1.13 acres of riparian scrub not considered jurisdictional by ACOE. The vernal pools in the project area are not within CDFW Section 1600 jurisdiction. However, CDFW does assert jurisdiction over state threatened and endangered species that may occur within vernal pools though the California Endangered Species Act (CESA).

6.3 RWQCB JURISDICTION

RWQCB jurisdiction within the survey area totals 5.55 acres of RWQCB waters of the state. RWQCB waters of the state consist of unvegetated streambed, coastal and valley freshwater marsh, emergent wetland, riparian scrub, southern willow scrub, disturbed wetland, and vernal pools.

Chapter 7 - Permit Authorization

ACOE, CDFW, and RWQCB jurisdictional waters are regulated by the federal, state, and local government. All impacts to jurisdictional waters need to be avoided and minimized to the greatest extent possible.

Unavoidable impacts to jurisdictional waters may be authorized by ACOE, CDFW, and ACOE through permit authorizations from ACOE (Section 404 permit program), from CDFW through a 1602 Streambed Alteration Agreement, and from RWQCB through a 401 State Water Quality Certification. In addition, impacts to isolated waters of the state will require a Waste Discharge Permit from the RWQCB.

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ATTACHMENTS

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ATTACHMENT 1: AQUATIC FEATURES DESCRIPTIONS

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Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF1	Vegetated drainage	Between Location 1 and Location 2	Vegetated drainage with an OHWM and connectivity containing emergent marsh vegetation dominated by southern cattail (*Typha domingensis*, OBL) and mule fat (*Baccharis salicifolia*, FAC). This feature is considered an ACOE wetland water of the U.S., CDFW wetland, and RWQCB water of the state. As the project transmission line spans this feature, no impacts are anticipated.	ACOE/CDFW/ RWQCB	NA	2	Photograph 1
AF2	Ephemeral drainage	Between Location 3 and Location 4	Ephemeral drainage with an OHWM and connecting containing fringing riparian scrub vegetation dominated by mule fat. The drainage channel of this feature is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state, while the riparian scrub fringing the drainage is considered CDFW wetland only. As the project transmission line spans this feature, no impacts are anticipated.	ACOE/CDFW/ RWQCB	NA	2	Photograph 2
AF3	Ephemeral drainage	Between Location 6 and Location 7	Ephemeral drainage with an OHWM and connectivity containing fringing riparian scrub vegetation dominated by mule fat and castor bean (*Ricinus communis*, FACU). The drainage channel of this feature is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state, while the riparian scrub fringing the drainage is likely CDFW only. The drainage channel of Feature 3 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	3	Photograph 3
AF4	man-made detention basin	southwest of Location 5	Man-made detention basin vegetated with riparian scrub vegetation dominated by mule fat and salt cedar (*Tamarix chinensis*, FAC), with occasional herbaceous understory vegetation consisting of dock *(Rumex* sp.). Feature 4 is not connected to a TNW, and does not exhibit a defined OWHM or streambed. The detention basin is likely considered an ACOE wetland waters and RWQCB water of the state occurring as a result of urban runoff from surrounding development to the west and sheet flow from paved roads to the south. As this feature is outside of proposed work areas, no impacts are anticipated.	ACOE and RWQCB	NA	3	Photograph 4

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF5	Vegetated drainage	Southeast of Location 14	Vegetated drainage with an OHWM and connectivity dominated by mule fat and black willow *(Salix goodingii*, FACW). The drainage channel of this feature is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state, while the riparian scrub fringing the drainage is likely considered ACOE wetland water, CDFW wetland, and RWQCB water of the state. The drainage channel of Feature 5 flows into a 3-foot box culvert and does not cross project features. As this feature is outside of proposed work areas, no impacts are anticipated.	ACOE/CDFW/ RWQCB	NA	4	Photograph 5
AF6	Ephemeral drainage	East of pole Location 17 and immediately west of Heritage Road	Ephemeral drainage with an OHWM and connectivity dominated by San Diego marsh elder (*Iva hayesiana*, FACW) and mule fat. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. As the project transmission line spans this feature, no impacts are anticipated.	ACOE/CDFW/ RWQCB	NA	5	Photograph 6
AF7	Swale	Between Location 21 and Location 22	Non-jurisdiction swale dominated by disturbed vegetation, including castor bean and non-native upland grasses. This feature is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM, defined streambed, and dissipation of flow to upland vegetation south of the project access road.	Non-jurisdictional	NA	6	Photograph 7
AF8	Swale	Between poles Location 26 and Location 27	Non-jurisdiction swale dominated by disturbed vegetation, including castor bean and non-native upland vegetation. Incidental patches of giant reed *(Arundo donax*, FACW) occur north of the project access road. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed. Feature 8 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	6	Photograph 8
AF9	Swale	Directly east of Location 27	Non-jurisdictional swale dominated by upland non-native grasses. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed. Feature 9 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	6	Photograph 9

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF10	Ephemeral drainage	Between Location 32 and Location 33	Ephemeral drainage dominated by disturbed vegetation, including castor bean and purple falsebrome (*Brachypodium distachyon*, UPL). The ephemeral drainage exhibits an average 1-foot wide OHWM and streambed with cut banks ranging from .5-1.5 feet. This un-named tributary of the Otay River is considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 10 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	7	Photograph 10
AF11	Ephemeral drainage	East of Location 36	Ephemeral drainage with fringing riparian scrub vegetation dominated by desert fragrance (*Ambrosia [Hymenoclea] monogyra*, UPL) with occasional mule fat. The drainage channel of this feature is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state, while the riparian scrub fringing the drainage is likely CDFW wetland only. The drainage channel of Feature 11 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	8	Photograph 11
AF12	Swale	Between Location 38 and Location 39	Non-jurisdictional swale dominated by upland grass species. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed, dissipating south of the project access road into upland. Water conveyed by Feature 12 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	8	Photograph 12
AF13	Adjacent weltand	North of the project from Location 38 east to Location 42	Adjacent wetland to the Otay River composed of disturbed riparian scrub dominated by mule fat, blue elderberry (*Sambucus nigra*, FAC), salt cedar, black willow, southwestern spiny rush (*Juncus acutus ssp. leopoldii*, FACW), and desert fragrance. The adjacent wetland area of Feature 13 exhibits areas of standing surface water and is likely considered ACOE wetland water of the US, CDFW riparian wetland, and RWQCB water of the state.	ACOE/CDFW/ RWQCB	NA	8 and 9	Photograph 13

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF14	Ephemeral drainage	South of project access road and west of Location 41 extending to the north and west	Ephemeral drainage and un-named tributary to the Otay River dominated by upland lemonade berry (*Rhus integrifolia*, UPL). Feature 14 is characterized by an approximately 1 to 1.5 foot OHWM and streambed, and intersects an existing project access road approximately 100 feet west of Location 41, where is redirected to the west by an existing road berm. The feature continues along the cobbled north shoulder of the access road for approximately 100 feet to the west, before turning north through an installed energy dissipater and entering the Otay River floodplain. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	9	Photograph 14
AF15	Swale	South of Location 43	is a non-jurisdictional swale containing upland lemonade berry, fennel (*Foeniculum vulgare*, UPL), and upland grasses. Feature 13 is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed; however, sufficient flow occurs within the feature south of the Location 43 resulting in occasional areas of non-contiguous erosion and scouring, before flow dissipates immediately south of Location 43 into upland. Feature 15 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	9	Photograph 15
AF16	Swale	Between Location 46 and Location 47	is a non-jurisdictional swale containing non-native grassland vegetation dominated by rip-gut brome (*Bromus diandrus*, UPL) and slender wild oat (*Avena barbata*, UPL) (Photograph 16, Map Page 10). Feature 16 is located in between Location 46 and Location 47. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed. Feature 16 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	10	Photograph 16
AF17	Man-made storm water system	East of Locations 50.1 and 50.2	Non-jurisdictional concrete brow ditch and energy dissipater east of Locations 50.1 and 50.2 constructed wholly in uplands and designed to drain upland fill slope of a freeway bridge abutment. This feature is a constructed BMP and; therefore, is likely exempt from jurisdiction. Feature 17 sheet flows across a maintained, concrete Arizona crossing on an existing project access road.	Non-jurisdictional	NA	10	Photograph 17

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF18	Swale	Within String Site 14; Between Location 52 and Location 53	Non-jurisdictional swale containing red brome (*Bromus madritensis* ssp. *rubens*, UPL), fennel, and sparse, occasional, mule fat. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed, dissipating north of the project access road into upland non-native grasses. Feature 18 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	11	Photograph 18
AF19	Erosional feature	East and south of Location 55	Non-jurisdictional erosional feature occurring along the shoulder of an unmaintained dirt access road. This feature lacks OHWM and a defined bed and bank. Feature 19 sheet flows across a maintained, unpaved, unculverted, existing project access road.	Non-jurisdictional	NA	11 and 12	Photograph 19
AF20	Ephemeral drainage	Approximately 25 feet west of Location 56	Vegetated ephemeral drainage with an OHWM and connectivity dominated by fennel and mule fat. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 20 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	12	Photograph 20
AF21	Ephemeral drainage	Between Location 57 and Location 58	Un-vegetated ephemeral drainage with an OHWM and connectivity. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 21 flows beneath the maintained project access road via two approximately 2-foot-diameter corrugated pipe culverts. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	12	Photograph 21
AF22	Emergent wetland	Approximately 7 feet east of Location 59	Emergent wetland dominated by beardless wild-rye (*Elymus triticoides*, FAC). The wetland is not associated with a streambed, but rather is a closed-depressional feature and; therefore, is not considered jurisdictional by CDFW. The wetland is likely considered an ACOE wetland water of the U.S. and RWQCB water of the state. The replacement pole will be installed west of the existing pole, and will not impact this feature.	ACOE and RWQCB	SP3	12	Photograph 22

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF23	Swale	Between Locations 60 and Locations 61 and spur road to location 60	Non-jurisdictional swale containing non-native grassland vegetation dominated by broom baccharis (*Baccharis sarothroides*, FACU), rip-gut grass, and slender wild oat. The swale is not considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state due to lack of OHWM or defined streambed. Feature 23 sheet flows across a maintained, unpaved, unculverted, existing project spur road and continues to the north across an existing project access road.	Non-jurisdictional	NA	13	Photograph 23
AF24-north of access road	Ephemeral drainage	Approximately 40 feet northeast of Location 62	Ephemeral drainage containing non-native grassland vegetation dominated by slender wild oat. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state characterized by an approximately 1.5 foot OHWM and streambed north of the existing project access road.	ACOE/CDFW/ RWQCB	NA	13	Photograph 24
AF 24 – south of access road	Swale	Approximately 40 feet northeast of Location 62	South of the existing project access road (upstream of the defined channel), Feature 24 is characterized as a non-jurisdictional swale lacking an OHWM or defined streambed, and is dominated by non-native grassland vegetation. Feature 24 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	Non-jurisdictional	NA	13	Photograph 24
AF25	Ephemeral drainage	Between Location 65 and Location 66	Ephemeral drainage and un-named tributary of the Otay River dominated by broom baccharis with an understory dominated by California fuchsia (*Epilobium canum*). The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 25 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	14	Photograph 25

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF26	Emergent wetland	East-northeast of Location 69	Emergent marsh dominated by Italian ryegrass (*Lolium perenne*, FAC) and common rush (*Juncus effusus*, FACW). This feature is likely considered an ACOE wetland water of the U.S. and RWQCB water of the state. The emergent wetlands at Feature 26 are located directly south of the existing access road, is not associated with a streambed and; therefore is not considered jurisdictional by CDFW. This feature is located immediately south of the existing project access road, and is not expected to be impacted by vehicular use.	ACOE and RWQCB	SP9	15	Photograph 26
AF27	Ephemeral drainage	Southwest of Location 70	Ephemeral drainage and unnamed tributary of the Otay River dominated by upland coastal sage scrub vegetation. The ephemeral drainage is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 27 flows across a maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	16	Photograph 27
AF28	Ephemeral stream	Between Location 74 and Location 75, south and west of Location 77, and east of Location 78	Ephemeral stream and unnamed tributary of the Otay River. The ephemeral stream is characterized by a cobbled bed with upland broom baccharis and Tecate cypress (*Cupressus forbesii*; UPL) occurring on the banks. The feature is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state. Portions of the project access road cross this feature northwest of Location 77 and east of Location 78. This feature flows across several portions of maintained, unpaved, unculverted, existing project access road. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	17	Photograph 28
AF29	Riparian scrub	Northwest of Stringing Site 20	Fringing riparian scrub vegetation dominated by mule fat, and black willow associated with Feature 28. Although the drainage channel of Feature 28 is likely considered an ACOE non-wetland water of the U.S., CDFW streambed, and RWQCB water of the state, the riparian scrub of Feature 29 fringing the drainage is likely CDFW riparian only. The riparian area of feature 29 extends to the south immediately adjacent to an existing dirt access road. This feature is located immediately north of the existing project access road, and is not expected to be impacted by vehicular use. Additionally, as the project transmission line spans this feature, no impacts are anticipated.	CDFW	NA	17	Photograph 29

Attachment 1: Aquatic Features Occurring with the TL 649 Project Area

Aquatic Feature Number	Description	Location Description	Jurisdictional Determination Reasoning	Agency Jurisdiction	Sample Point	Map Page Number	Photograph
AF30	Ephemeral stream	Along access road Between Location 86 and Location 87	Un-named tributary of the Otay River containing southern willow scrub dominated by arroyo willow (*Salix lasiolepis*, FACW) and mulefat. This feature is likely considered an ACOE wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 30 flows beneath a concrete bridge on the maintained access road via a culvert. The drainage area extends to the west below the project alignment south of Location 86. Project activity includes vehicular access through the drainage as it crosses the road. Additionally, as the project transmission line spans this feature, no impacts are anticipated.	ACOE/CDFW/ RWQCB	SP20	19 and 20	Photograph 30
AF31	Ephemeral drainage	West of Location 100	Ephemeral drainage with an OHWM and connectivity containing disturbed wetland and emergent marsh vegetation. The disturbed wetland vegetation south of the project access road is dominated by salt cedar. The emergent marsh wetland north of the project access road is dominated by San Diego marsh elder. Flowing water within the channel was present at the time of the survey effort. The ephemeral drainage is likely considered an ACOE wetland water of the U.S., CDFW streambed, and RWQCB water of the state. The drainage channel of Feature 31 flows beneath the maintained project access road via a culvert. Project activity includes vehicular access through the drainage as it crosses the road.	ACOE/CDFW/ RWQCB	NA	22 and 23	Photograph 31
AF32	Erosional feature	East of Stringing Site 27 and Location 109, extending south to Location 116	Non-jurisdictional erosional feature apparently formed by the formation of a road berm east of the Project access road and agricultural land activities to the east. The feature is expected to carry surface water runoff, and does not directly connect to a TNW.	Non-jurisdictional	NA	24, 25 and 26	Photograph 32

ATTACHMENT 2: VERNAL POOL DESCRIPTIONS

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Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP1	No	NA	Vegetated	Approximately 40 feet northeast of Location 60	Located on a utility access road. This pool is dominated by beard grass (*Polypogon monspeliensis*, FACW) and Italian rye grass (*festuca perennis*, FAC). This pool is hydrologically connected to Vernal pool 2011-VP-12 by a non-jurisdictional swale. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools.	SP5	13	Photograph 33
VP2	Yes	2011-VP-12	Vegetated	Located on the spur road to Location 60	Located on a utility access road. Vegetation within the pool is dominated by grass poly and slender wooly heads (*Psilocarphus tenellus*, OBL). This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	13	Photograph 34
VP3	Yes	2010-VP-14	Unvegetated	Approximately 150 feet west of Location 63	Located within access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	14	Photograph 35
VP4	Yes	2011-VP-11	Unvegetated	Approximately 55 feet east of Location 63, and 75 feet west of Location 63.1	Located within access road,previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. Located within access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	14	Photograph 36
VP5	Yes	2009-VP-36	Unvegetated	Approximately 35 feet northwest of Location 67	Located within access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP6	15	Photograph 37
VP6	Yes	2009-VP-37	Unvegetated	Approximately 120 feet southwest of Location 69	Located within access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP7	15	Photograph 38

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP7	Yes	2011-VP-10	Vegetated	Immediately southwest of Location 69	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. At the time of the survey the pool was sparsely vegetated by slender wooly heads along the southern road shoulder. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	15	Photograph 39
VP8	No	NA	Vegetated	Approximately 120 feet north of Location 69	Located within an access road, delineated during the 2015 survey effort, located on an alternate utility access road. At the time of the survey, vegetation within the pool included grass poly (*Lythrum hyssopifolium*, OBL). This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP45	15	Photograph 40
VP9	No	NA	Vegetated	Approximately 145 feet northeast of Location 69	Located within an access road, delineated during the 2015 survey effort, located on an alternate utility access road. At the time of the survey, vegetation within the pool included grass poly, slender wooly heads, and common rush. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP44	15	Photograph 41
VP10	Yes	2009-VP-38	Unvegetated	Immediately southwest of Location 69	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road immediately southwest of Location 69 (Photograph 42, Map Page 16, SP 8). This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP8	15	Photograph 42
VP11	Yes	2011-VP-09	Vegetated	Immediately south of Location 72	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was dominated by slender wooly heads.	NA	16	Photograph 43
VP12	Yes	2010-VP-15	Vegetated	Located north of Location 75 and Location 0 approximately 60 feet north of stringing site 20	Naturally occurring vernal pool within the Otay River floodplain and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. Wooly marbles (*Psilocarphus brevissmus ssp. brevissmus*, OBL) was observed to occur within this pool during the 2014 and 2015 survey efforts. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	17	Photograph 44

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP13	Yes	2011-VP-08	Vegetated	Approximately 200 feet west of Location 77	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP10	17	Photograph 45
VP14	Yes	2011-VP-07	Unvegetated	Approximately 210 feet southwest of Location 77	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP11	17	Photograph 46
VP15	Yes	2010-VP-21	Vegetated	Approximately 100 feet southwest of Location 84	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 84 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	19	Photograph 47
VP16	Yes	2010-VP-04	Vegetated	Approximately 50 feet southwest of Location 84	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 84 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	19	Photograph 67
VP17	Yes	2010-VP-10	Vegetated	Approximately 75 feet south-southwest of Location 84	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 84 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	19	Photograph 67
VP18	Yes	2009-VP-48	Vegetated	Approximately 15 feet south of Location 85	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. At the time of the survey, vegetation within the pool was included wooly marbles, beard grass, and Italian rye grass. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	19	Photograph 47

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP19	Yes	2009-VP-47	Vegetated	Approximately 100 feet south of Location 85	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included wooly marbles, beard grass, and Italian rye grass.	NA	19	Photograph 48
VP20	No	NA	Vegetated	Approximately 85 feet north of Location 86	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included wooly marbles and beardless wild rye.	SP48	19	Photograph 49
VP21	No	NA	Unvegetated	Approximately 30 feet northeast of Location 86	Located on a utility access road. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species are observed, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP19	19	Photograph 50
VP22	Yes	2011-VP-05	Vegetated	Approximately 50 feet west of Location 87	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 87 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. San Diego button celery (*Eryngium aristulatum ssp. parishii;* OBL) was observed to occur within this pool during the 2014 and 2015 survey efforts. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. Note: CDFW has jurisdiction over San Diego button celery through CESA.	NA	20	Photograph 67
VP23	Yes	2009-VP-40	Vegetated	Approximately 60 feet northwest of Location 89	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 89 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	20	Photograph 67

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP24	Yes	2009-VP-41	Vegetated	Approximately 45 feet west of Location 89	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 89 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	20	Photograph 67
VP25	Yes	2010-VP-01	Vegetated	Approximately 10 feet south of Location 89	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included toad rush (*Juncus bufonius*, FACW), wooly marbles, beard grass, and Italian rye grass.	SP21	20	Photograph 51
VP26	No	NA	Vegetated	Approximately 120 feet north of Location 90	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included, Mediterranean barley (*Hordeum marinum*, FAC), wooly marbles, beard grass, Italian rye grass, Australian saltbush (*Atriplex semibaccata*, FAC).	SP22	20	Photograph 52
VP27	Yes	2011-VP-06	Vegetated	Approximately 110 feet north of Location 90	Disturbed vernal pool located immediately west of the existing utility road shoulder and east of the Donovan State Prison road within a depression. This pool was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	20	Photograph 53
VP28	Yes	2011-VP-06	Vegetated	Approximately 115 feet north of Location 90	Located within an access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included toad rush, Mediterranean barley, wooly marbles, beard grass, and Italian rye grass.	SP23	20	Photograph 54

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP29	No	NA	Vegetated	Approximately 20 feet southeast of Location 90	R Located on Donovan State Prison access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included, Mediterranean barley, wooly marbles, Italian rye grass, and wild oat.	SP24	20	Photograph 55
VP30	No	NA	Vegetated	Approximately 25 feet southwest of Location 90	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included wooly marbles.	NA	20	Photograph 56
VP31	No	NA	Vegetated	Approximately 10 feet north of Location 91	Located within an access road, dominated by Italian ryegrass, woolly marbles, Mediterranean barley, and Australian saltbush in a dirt access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	SP25	21	Photograph 57
VP32	No	NA	Vegetated	Approximately 15 feet southeast of Location 90	Located on Donovan State Prison access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass.	SP26	21	Photograph 58
VP33	No	NA	Vegetated	Approximately 40 feet south of Location 91	Located on access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included toad rush Mediterranean barley, wooly marbles, and Italian rye grass.	SP27	21	Photograph 59
VP34	Yes	2011-VP-04 and 2009-VP-43	Vegetated	Approximately 65 feet north of Location 92	Located on access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. The 2011 mapped limits of the pool extend beyond the east road shoulder to a low lying depression located between the existing utility access road and the Donovan State Prison Access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included toad rush Mediterranean barley, grass poly, toad rush, and Italian rye grass.	SP28	21	Photograph 60

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP35	No	NA	Vegetated	Approximately 70 feet northeast of Location 92	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP29	21	Photograph 60
VP36	No	NA	Vegetated	Approximately 20 feet east-northeast of Location 92	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP30	21	Photograph 60
VP37	Yes	2009-VP-44	Vegetated		Road rut, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included Italian rye grass, beard grass, and wooly marbles.	SP31	21	Photograph 61
VP38	Yes	2011-VP-03	Vegetated	Approximately 55 feet south of Location 92	Disturbed vernal pool located immediately west of the existing utility road shoulder and east of the Donovan State Prison road within a depression. This pool was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	21	Photograph 61

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP39	Yes	2009-VP-45	Vegetated	Approximately 90 feet southwest of Location 92	Located on access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included wooly marbles.	NA	21	Photograph 62
VP40	No	NA	Vegetated	Approximately 105 feet south of Location 92	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included wooly marbles.	NA	21	Photograph 62
VP41	No	NA	Vegetated	Approximately 125 feet northeast of Location 93	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP32	21	Photograph 62
VP42	No	NA	Vegetated	Approximately 85 feet northeast of Location 93	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP33	21	Photograph 62
VP43	Yes	2011-VP-02	Vegetated		Disturbed vernal pool located immediately west of the existing utility road shoulder and east of the Donovan State Prison road within a depression. This pool was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report and is likely considered jurisdictional by ACOE and RWQCB.	NA	21	Photograph 62

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP44	Yes	2009-VP-46	Vegetated	immediately west of Location 91	Located on access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included Mediterranean barley, wooly marbles, and Italian rye grass.	SP34	21	Photograph 63
VP45	Yes	2010-VP-13	Vegetated	Approximately 115 feet southwest of Location 93	Naturally occurring vernal pool located within the San Diego mesa claypan vernal pool complex west of location 93 (Photograph 63, Map Page 21). This pool occurs approximately 115 feet southwest of location 93 and was previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report. This vernal pool is likely considered jurisdictional by ACOE and RWQCB.	NA	21	Photograph 63
VP46	No	NA	Vegetated	Approximately 60 feet southeast of Location 93	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass and Italian rye grass. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP35	21	Photograph 63
VP47	Yes	2011-VP-13	Vegetated	Approximately 80 feet south of Location 94	Located on access road, previously delineated during the 2009 Vernal Pool Data Accuracy Assessment Report, located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool was included Mediterranean barley, wooly marbles, Italian rye grass, and sea spurreys (*Spergularia* sp., FACW).	SP36	21 & 22	Photograph 64

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP48	No	NA	Vegetated	Approximately 130 feet southeast of Location 94	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included beard grass, wild oat, and Australian saltbush. Although vernal pool indicator species were not observed at the time of the survey, during periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species occur, this pool is may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP37	21 & 22	Photograph 64
VP49	No	NA	Vegetated	adjacent to and north of Location 95	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included wooly marbles, beard grass, and Italian rye grass.	SP38	22	Photograph 65
VP50	No	NA	Vegetated	Approximately 40 feet east of Location 95	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included sea spurreys and cow thistle (*Sonchus oleraceous*, UPL); however, this pool exhibits hydrological connectivity to adjacent vernal pools 48 and 50, as well as the natural San Diego mesa claypan vernal pool habitat to the west. Vernal pool indicator species were not observed to occur at the time of the survey. During periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species are observed, this pool may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP39	22	Photograph 65
VP51	No	NA	Vegetated	Approximately 75 feet south of Location 95	Located on a utility access road. This vernal pool is likely considered jurisdictional by ACOE and RWQCB. At the time of the survey, vegetation within the pool included wooly marbles and beard grass.	SP40	22	Photograph 66

Attachment 2: Vernal Pools Occurring Within the TL 649 Project Area

Vernal Pool Number	Included in Baseline	AECOM Pool Number	Vegetated or Unvegetated during time of survey	Location Description	Jurisdictional Determination Reasoning	Sample Point	Map Page Number	Photograph
VP52	No	NA	Vegetated	Approximately 75 feet southeast of Location 95	Located on Donovan State Prison access road. At the time of the survey, vegetation within the pool included cow thistle and sea spurreys; however, this pool exhibits hydrological connectivity to adjacent vernal pools (VP 50), as well as the natural San Diego mesa claypan vernal pool habitat to the west. Vernal pool indicator species were not observed at the time of the survey. During periods of sufficient rainfall and inundation, this road rut may support the vernal pool indicator species due to proximity to adjacent vernal pools. If vernal pool indicator species are observed, this pool may be considered jurisdictional by ACOE and RWQCB due to hydrology and connectivity with the surrounding, natural, vernal pool areas.	SP41	22	Photograph 65

ATTACHMENT 3: PHOTOGRAPHIC DOCUMENTPROJECT

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Photograph 1: Feature 1 is a vegetated drainage and emergent wetland located between Location 1 and Location 2. As the project transmission line spans this feature, no impacts are anticipated. Photograph taken facing northeast

Photograph 2: Feature 2 is an ephemeral drainage located between Location 3 and Location 4. As the project transmission line spans this feature, no impacts are anticipated. Photograph taken facing southwest.

Photograph 3: Feature 3 an ephemeral drainage located between Location 6 and Location 7. Photograph taken facing west. Project activity includes vehicular access through the drainage as it crosses the road.

Photograph 4: Feature 4 is a man-made detention basin located southwest of Location 5. As this feature is outside of proposed work areas, no impacts are anticipated. Photograph taken facing northwest.

Photograph 5: Feature 5 is a vegetated drainage located southeast of location 14. As this feature is outside of proposed work areas, no impacts are anticipated. Photograph taken facing north.

Photograph 6: Feature 6 is an ephemeral drainage located east of pole Location 17 and immediately west of Heritage Road. As the project transmission line spans this feature, no impacts are anticipated. Photograph taken facing east.

Photograph 7: Feature 7 is a non-jurisdiction swale located between Location 21 and Location 22. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing southeast.

Photograph 8: Feature 8 is a non-jurisdiction swale located between Location 26 and Location 27. Feature 8 sheet flows across a maintained, unpaved, unculverted, existing project access road and dissipates into upland. Photograph taken facing northwest.

Photograph 9: Feature 9 is a non-jurisdictional swale directly east of Location 27. Feature 9 sheet flows across a maintained, unpaved, unculverted, existing project access road and dissipates into upland. Photograph taken facing northwest.

Photograph 10: Feature 10 is an ephemeral drainage located between Location 32 and Location 33. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing northeast.

Photograph 11: Feature 11 is an ephemeral drainage located east of Location 36. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing east.

Photograph 12: Feature 12 is a non-jurisdictional swale located between Location 38 and Location 39. Water conveyed by Feature 12 sheet flows across a maintained, unpaved, unculverted, existing project access road and dissipates into upland. Photograph taken facing north.

Photograph 13: Feature 13 is an adjacent wetland within the floodplain of the Otay River. The feature occurs north of the project from Location 38 east to Location 42.

Photograph 14: Feature 14 is an ephemeral drainage and un-named tributary of the Otay River. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing northwest, where feature exits road into floodplain.

Photograph 15: Feature 15 is a non-jurisdictional swale. Feature 15 sheet flows across a maintained, unpaved, unculverted, existing project access road near location 43. Photograph taken facing south.

Photograph 16: Feature 16 is non-jurisdictional swale located in between Location 46 and Location 47. Feature 16 sheet flows across a maintained, unpaved, unculverted, existing project access road and dissipates into upland. Photograph taken facing north.

Photograph 17: Feature 17 is a non-jurisdictional concrete brow ditch and energy dissipater east of Locations 50.1 and 50.2. Feature 17 sheet flows across a maintained, concrete Arizona crossing on an existing project access road. Photograph taken facing north.

Photograph 18: Feature 18 is non-jurisdictional swale located in between Location 52 and Location 53, and crosses Stringing Site 14. Photograph taken facing northwest.

Photograph 19: Feature 19 is a non-jurisdictional erosional feature immediately to the east of Location 55 occurring along the shoulder of an unmaintained dirt access road extending to the south of Location 55. Photograph taken facing south.

Photograph 20: Feature 20 is an ephemeral drainage located approximately 25 feet west of Location 56. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing north.

Photograph 21: Feature 21 is an un-vegetated ephemeral drainage located in between Location 57 and Location 58. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing north.

Photograph 22: Feature 22 is an isolated emergent wetland located approximately 7 feet east of Location 59. The replacement pole will be installed west of the existing pole, and will not impact this feature. Photograph taken facing north.

Photograph 23: Feature 23 is non-jurisdictional swale located in between Locations 60 and Locations 61, and intersects the existing project spur road to Location 60. Photograph taken facing west.

Photograph 24: Feature 24 is an ephemeral drainage located approximately 40 feet northeast of Location 62. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing north.

Photograph 25: Feature 25 is an ephemeral drainage located in between Location 65 and Location 66. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing northwest.

Photograph 26: Feature 26 is a jurisdictional emergent marsh located east-northeast of Location 69. This feature is located immediately south of the existing project access road, and are not expected to be impacted by vehicular use. Photograph taken facing south.

Photograph 27: Feature 27 is an ephemeral drainage located southwest of Location 70. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing south.

Photograph 28: Feature 28 is a ephemeral stream and unnamed tributary of the Otay River located in between Location 74 and Location 75, south and west of Location 77, and east of Location 78. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing northwest.

Photograph 29: Feature 29 is characterized as fringing riparian scrub vegetation located immediately north of the existing project access road near location 75, and is not expected to be impacted by vehicular use. Photograph taken facing north.

Photograph 30: Feature 30 is a drainage and un-named tributary of the Otay River occurring along an access road between Location 86 and Location 87. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing northeast.

Photograph 31: Feature 31 is an ephemeral drainage with CDFW riparian scrub habitat located west of Location 100. Project activity includes vehicular access through the drainage as it crosses the road. Photograph taken facing southwest.

Photograph 32: Feature 32 is a non-jurisdictional erosional feature east of Stringing Site 27 and Location 109, extending south to Location 116. The feature is expected to carry surface water runoff, and does not connect to a TNW. Photograph taken facing south.

Photograph 33: Vernal pool 1 is located on a utility access road approximately 40 feet northeast of Location 60. Photograph taken facing west.

Photograph 34: Vernal pool 2 (vernal pool 2011-VP-12) is located on the spur road to Location 60. Photograph taken facing west.

Photograph 35: Vernal pool 3 (vernal pool 2010-VP-14) is located on a utility access road approximately 150 feet west of Location 63. Photograph taken facing east.

Photograph 36: Vernal pool 4 (vernal pool 2011-VP-11) is located on a utility access road approximately 55 feet east of Location 63, and 75 feet west of Location 63.1. Photograph taken facing east.

Photograph 37: Vernal pool 5 (vernal pool 2009-VP-36) located on a utility access road approximately 35 feet northwest of Location 67. Photograph taken facing east.

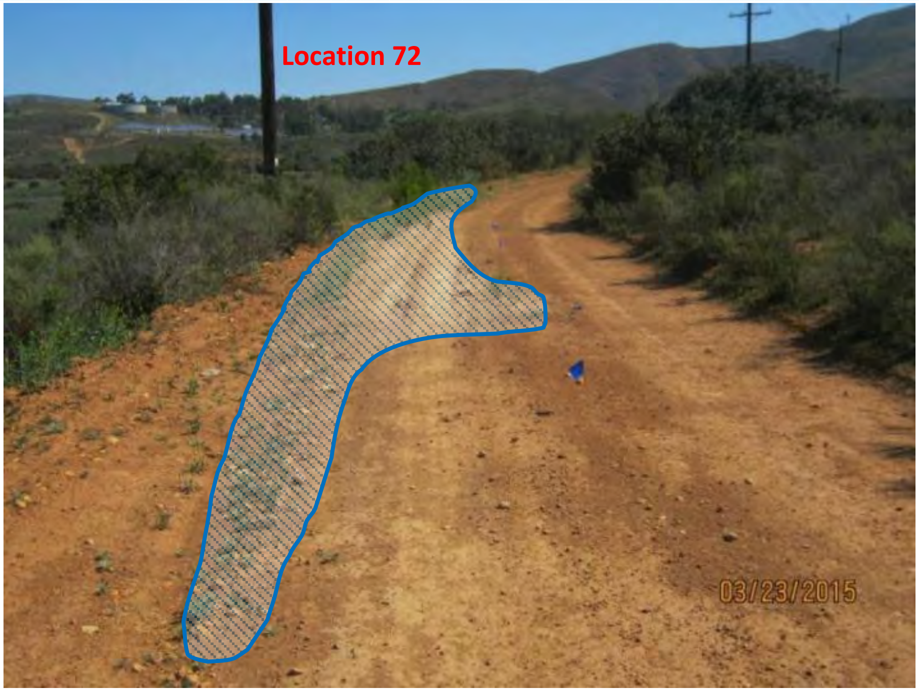
Photograph 38: Vernal pool 6 (vernal pool 2009-VP-37) is located on a utility access road approximately 120 feet southwest of Location 69. Photograph taken facing east.

Photograph 39: Vernal pool 7 (vernal pool 2011-VP-10) is located on a utility access road immediately southwest of Location 69. Photograph taken facing east.

Photograph 40: Vernal pool 8 is located on an alternate utility access road approximately 120 feet north of Location 69. Photograph taken facing north.

Photograph 41: Vernal pool 9 is located on an alternate utility access road approximately 145 feet northeast of Location 69. Photograph taken facing north.

Photograph 42: Vernal pool 10 (vernal pool 2009-VP-38) is located on a utility access road immediately southwest of Location 69. Photograph taken facing northeast.



Photograph 43: Vernal pool 11 (vernal pool 2011-VP-09) is located on a utility access road immediately south of Location 72. Photograph taken facing east.

Photograph 44: Vernal pool 12 (vernal pool 2010-VP-15) is a naturally occurring vernal pool (within a vernal pool complex) located north of Location 75 and Location 0 within the Otay River floodplain. Photograph taken facing north.

Photograph 45: Vernal pool 13 (vernal pool 2011-VP-08) is located on a utility access road approximately 200 feet west of Location 77. Photograph taken facing north.

Photograph 46: Vernal pool 14 (vernal pool 2011-VP-07) is located on a utility access road approximately 210 feet southwest of Location 77. Photograph taken facing east.

Photograph 47: Vernal pool 18 (vernal pool 2009-VP-47) is located on a utility access road approximately 15 feet south of Location 85. Photograph taken facing south.

Photograph 48: Vernal pool 19 (vernal pool 2009-VP-47) is located on a utility access road approximately 100 feet south of Location 85. Photograph taken facing south.

Photograph 49: Vernal pool 20 is located on a utility access road approximately 85 feet north of Location 86. Photograph taken facing south.

Photograph 50: Vernal pool 21 is located on the Donovan State Prison access raod approximately 30 feet northeast of Location 86. Photograph taken facing south.

Photograph 51: Vernal pool 25 (vernal pool 2010-VP-01) is located on a utility access road approximately 10 feet south of Location 89. Photograph taken facing south.

Photograph 52: Vernal pool 26 is located on a utility access road approximately 120 feet north of Location 90. Photograph taken facing south.

Photograph 53: Vernal pool 27 (vernal pool 2011-VP-06) is a vegetated depression located 110 feet north of Location 90.

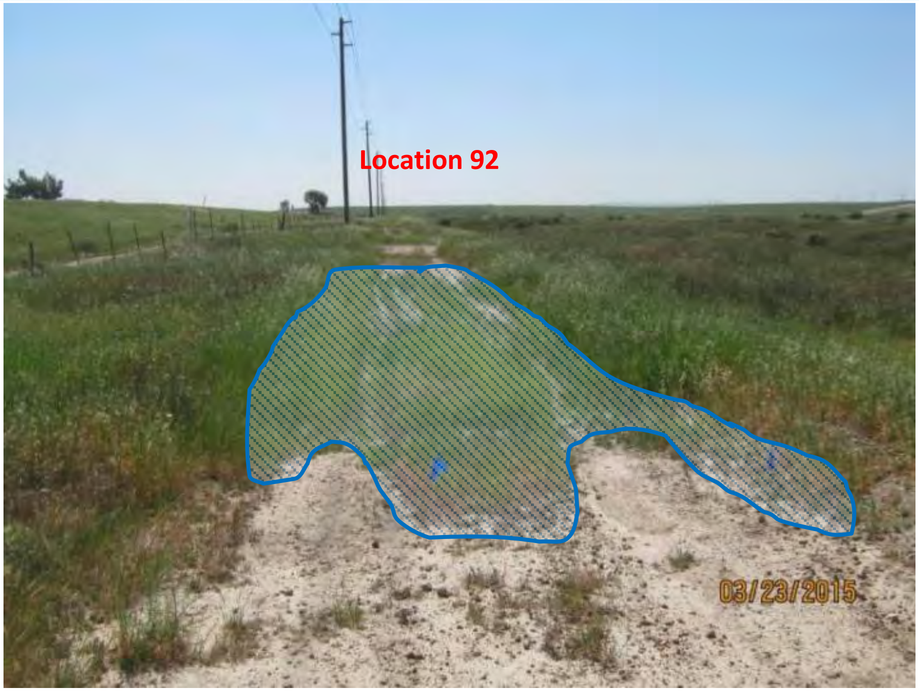
Photograph 54: Vernal pool 28 (vernal pool 2010-VP-19 and 2011-VP-01) is located on a utility access road approximately 115 feet north of Location 90. Photograph taken facing north.

Photograph 55: Vernal pool 29 is located on Donovan State Prison access road approximately 20 feet southeast of Location 90. Photograph taken facing southeast.

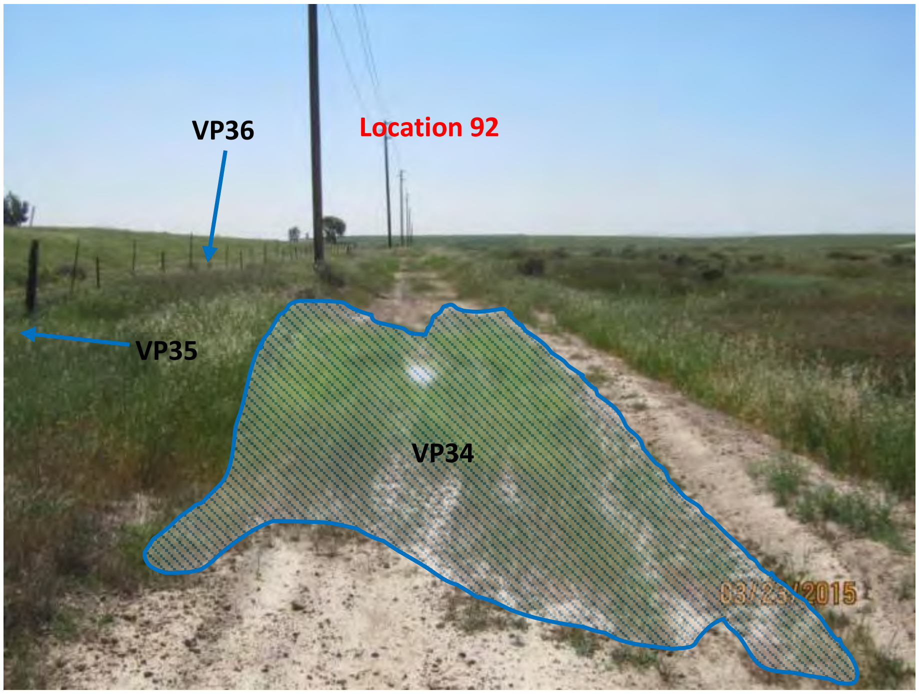
Photograph 56: Vernal pool 30 is located on a utility access road approximately 25 feet southwest of Location 90. Photograph taken facing south.

Photograph 57: Vernal pool 31 is located within an access road approximately 10 feet north of Location 91. Photograph taken facing south.

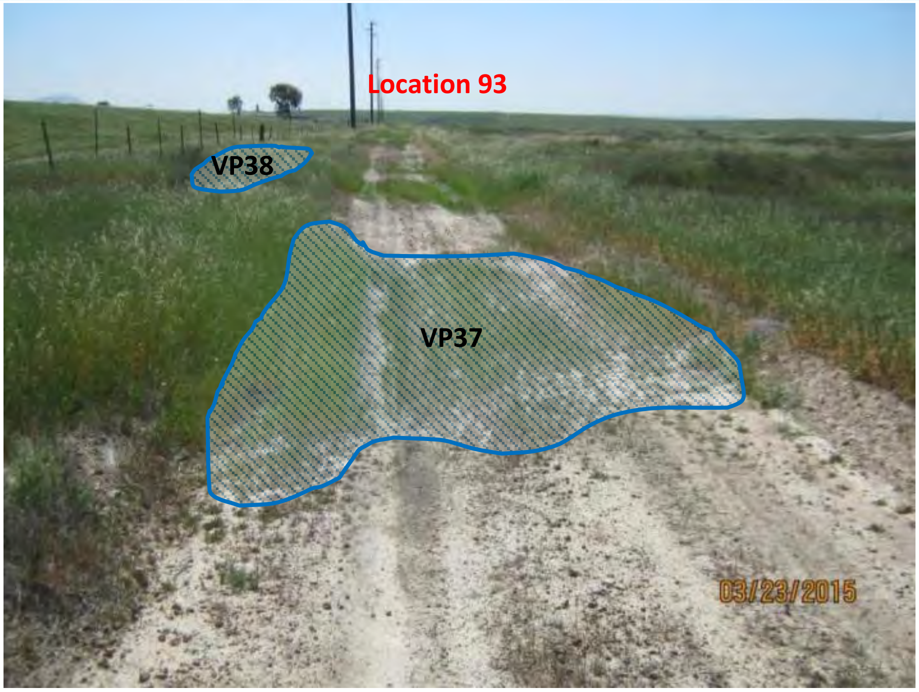
Photograph 58: Vernal pool 32 is located on Donovan State Prison access road approximately 15 feet southeast of Location 91. Photograph taken facing south.



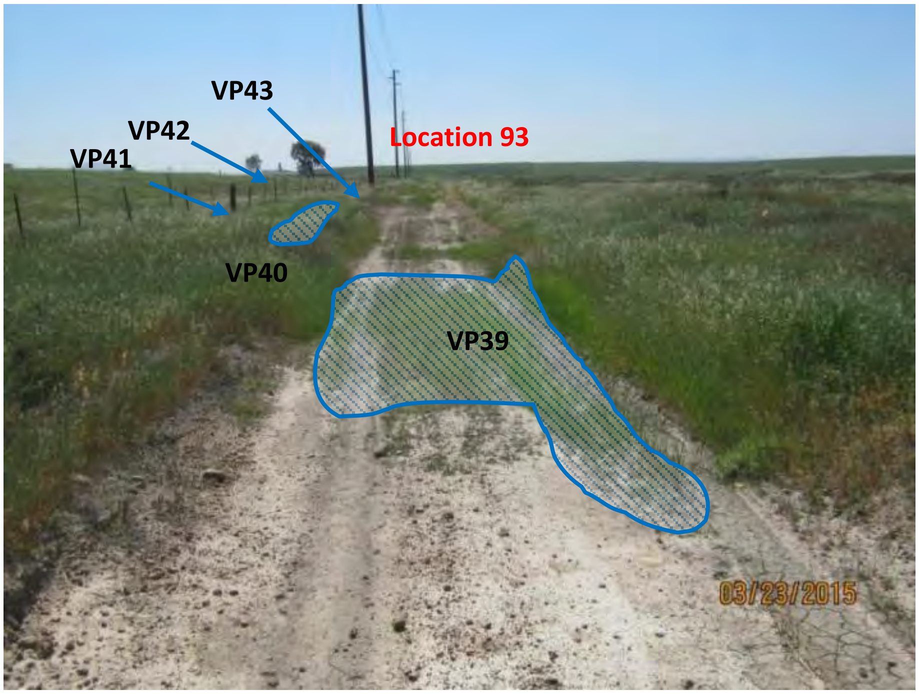
Photograph 59: Vernal pool 33 (vernal pool 2009-VP-42) is located on a utility access road approximately 40 feet south of Location 91. Photograph taken facing south.



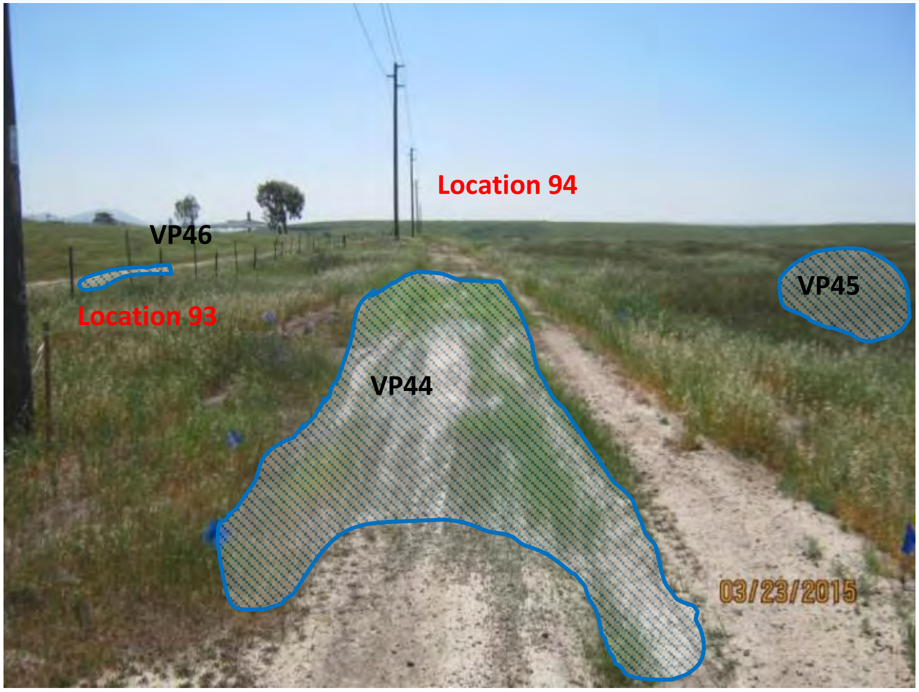
Photograph 60: Vernal pool 34 (vernal pool 2011-VP-04 and 2009-VP-43) is located on a utility access road approximately 65 feet north of Location 92. Photograph taken facing south. Vernal pool 35 and vernal pool 36 are vegetated road ruts located on the Donovan State Prison access road northeast of Location 92.



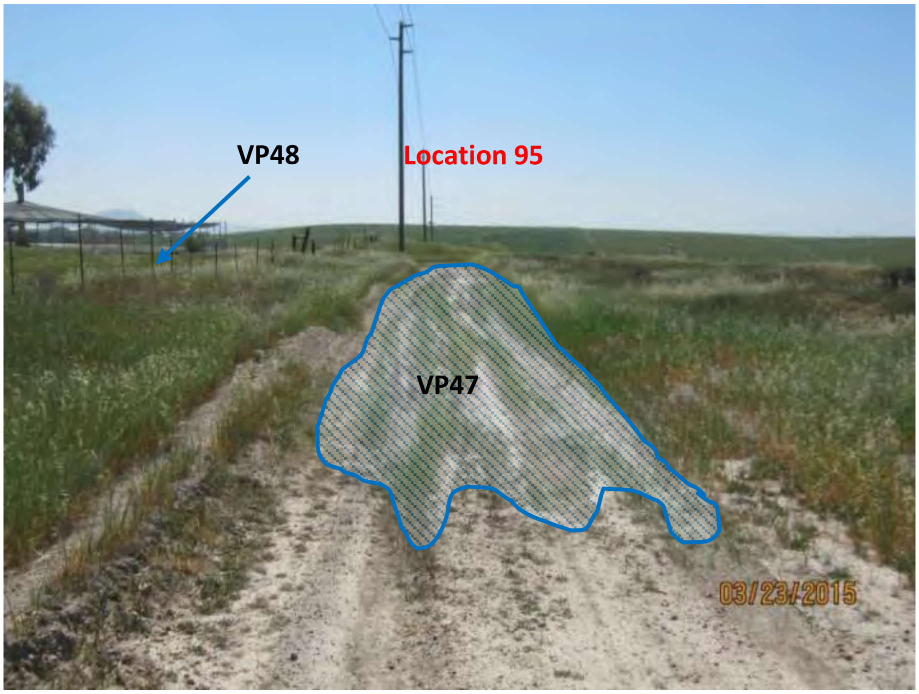
Photograph 61: Vernal pool 37 (vernal pool 2009-VP-44) is located on a utility access road approximately 80 feet south of Location 92. Vernal pool 38 within disturbed habitat east of access road. Photograph taken facing south.



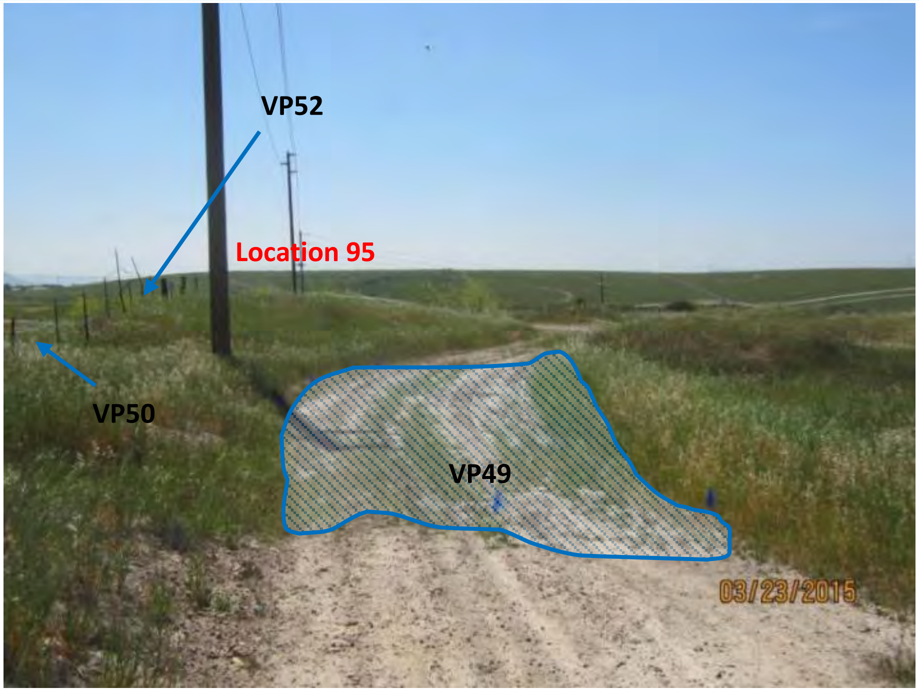
Photograph 62: Vernal pool 39 (vernal pool 2009-VP-45) is located on a utility access road approximately 90 feet southwest of Location 92. Vernal pool 40 and vernal pool 43 within disturbed habitat east of access road. Vernal pool 41 and vernal pool 42 located on Donovan State Prison access road. Photograph taken facing south.



Photograph 63: Vernal pool 44 (vernal pool 2009-VP-46) is located on a utility access road immediately west of Location 93. Vernal pool 45 within San Diego mesa claypan vernal pool habitat. Vernal pool 46 on Donovan State Prison access road. Photograph taken facing south.

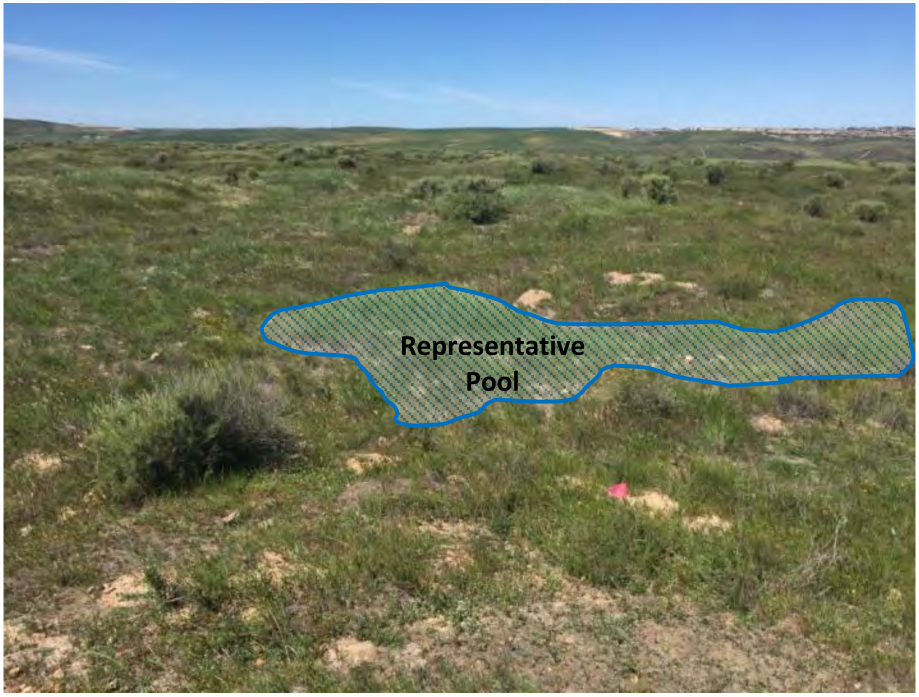


Photograph 64: Vernal pool 47 (vernal pool 2011-VP-13) is located on a utility access road located approximately 80 feet south of Location 94. Vernal pool 48 located on Donovan State Prison access road. Photograph taken facing south.



Photograph 65: Vernal pool 49 is located on a utility access road adjacent to and north of Location 95. Vernal pool 50 and vernal pool 52 are vegetated road ruts located on the Donovan State Prison access road northeast of Location 92. Photograph taken facing south.

Photograph 66: Vernal pool 51 is located on a utility access road approximately 75 feet south of Location 95. Photograph taken facing south.



Photograph 67: Representative photograph of San Diego mesa claypan vernal pool complex located west of Location 86 south to Location 97. The mesa top exhibits soil cracks, water marks, and mima mounds, in addition to vernal pool indicator species including San Diego button celery and San Diego goldenstar. Photograph taken facing northwest from Location 88. Mapped vernal pool features within this area include VP15, VP16, VP17, VP22, VP23, and VP24.

ATTACHMENT 4: FIGURES

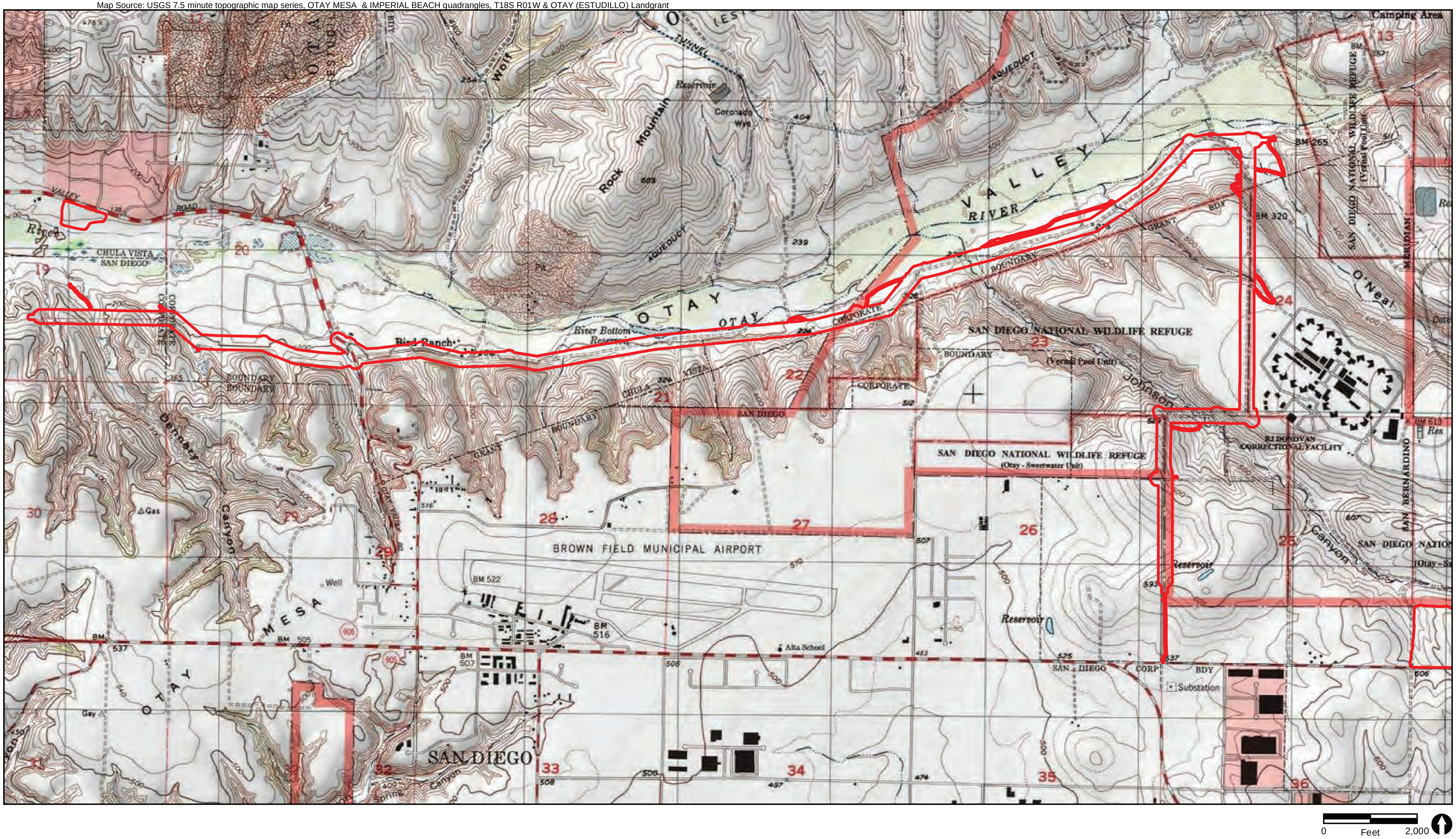
FIGURE 1

Regional Location of the TL649
Wood to Steel Project

RECON

M:\JOBS4\7153\common_gis\fig1.mxd 7/17/2014 sab

Map Source: USGS 7.5 minute topographic map series, OTAY MESA & IMPERIAL BEACH quadrangles, T18S R01W & OTAY (ESTUDILLO) Landgrant



🟥 Survey Area

FIGURE 2

USGS Map of the TL649 Wood to Steel Project

RECON

M:\JOBS4\7153\common_gis\fig2.mxd 12/9/2014 ccn

Image Source: SanGIS (flown May 2012)

🟥 Survey Area

RECON

M:\JOBS4\7153\common_gis\fig3.mxd 12/9/2014 ccn

FIGURE 3

Aerial Photograph of the TL649 Wood to Steel Project

Legend

▨ Staging Yard

▭ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟨 Gravel pits - Not hydric

Salinas

🟦 clay loam, 2 to 9 percent slopes - Not hydric

N

0 50 100 200

Feet

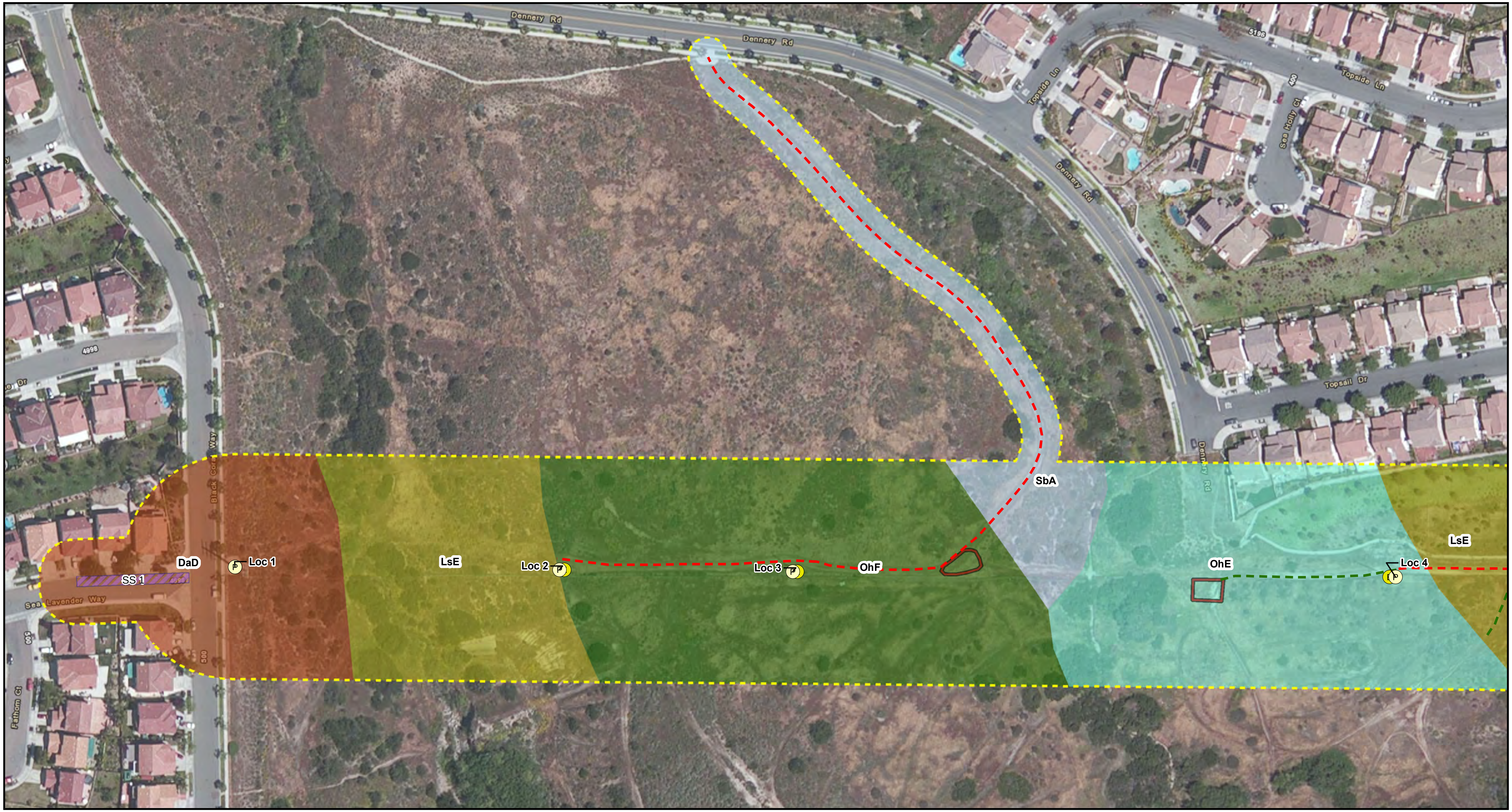
Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

CHAMBERS GROUP



Legend

- P Project Pole
- E Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ▨ String Site
- ▭ Turnaround Area
- ╌ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟫 clay, 9 to 15 percent slopes - Not hydric

Linne – suitable for supporting vernal pools

- 🟨 clay loam, 9 to 30 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

- 🟩 cobbly loam, 30 to 50 percent slopes - Not hydric
- 🟦 cobbly loam, 9 to 30 percent slopes - Partially hydric

Salinas

- 🟦 clay loam, 0 to 2 percent slopes - Not hydric

N

0 50 100 200
Feet

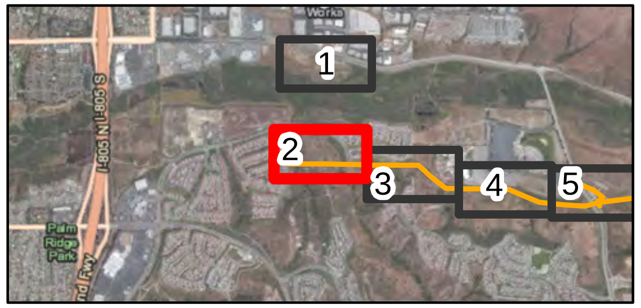


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▨ String Site
- ⬚ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟫 clay, 9 to 15 percent slopes - Not hydric

Linne – suitable for supporting vernal pools

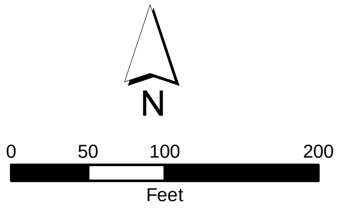
🟨 clay loam, 9 to 30 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

🟦 cobbly loam, 9 to 30 percent slopes - Partially hydric

Salinas

🟦 clay loam, 2 to 9 percent slopes - Not hydric



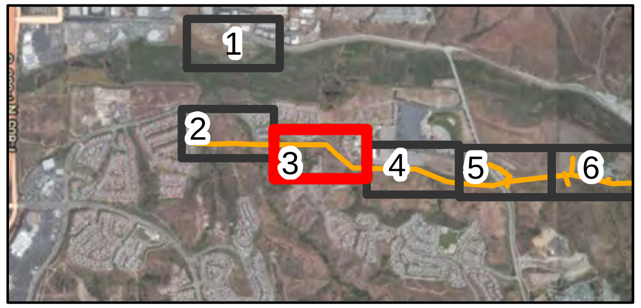


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- P Project Pole
- E Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

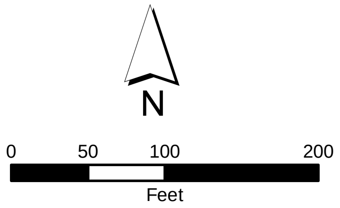
SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟧 clay, 30 to 50 percent slopes - Not hydric
- 🟫 clay, 9 to 15 percent slopes - Not hydric

Salinas

- 🟦 clay loam, 2 to 9 percent slopes - Not hydric



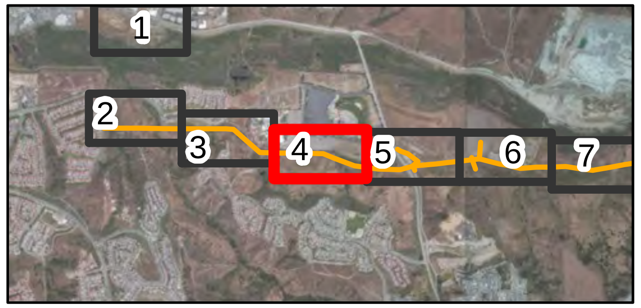


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- P Project Pole
- E Existing Pole
- ╥ Guard Structure
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- ☐ Turnaround Area

Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟧 clay, 30 to 50 percent slopes - Not hydric

Salinas

☐ clay loam, 0 to 2 percent slopes - Not hydric

🟦 clay loam, 2 to 9 percent slopes - Not hydric

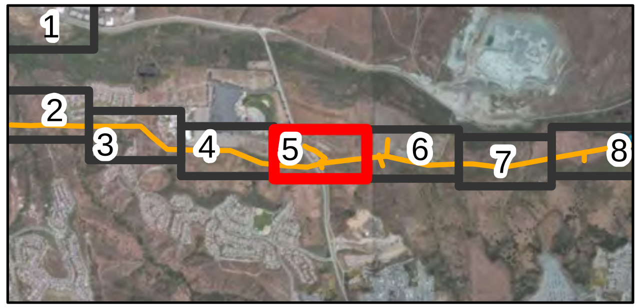


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- ▭ Turnaround Area
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟧 clay, 30 to 50 percent slopes - Not hydric

Salinas

- 🟦 clay loam, 2 to 9 percent slopes - Not hydric

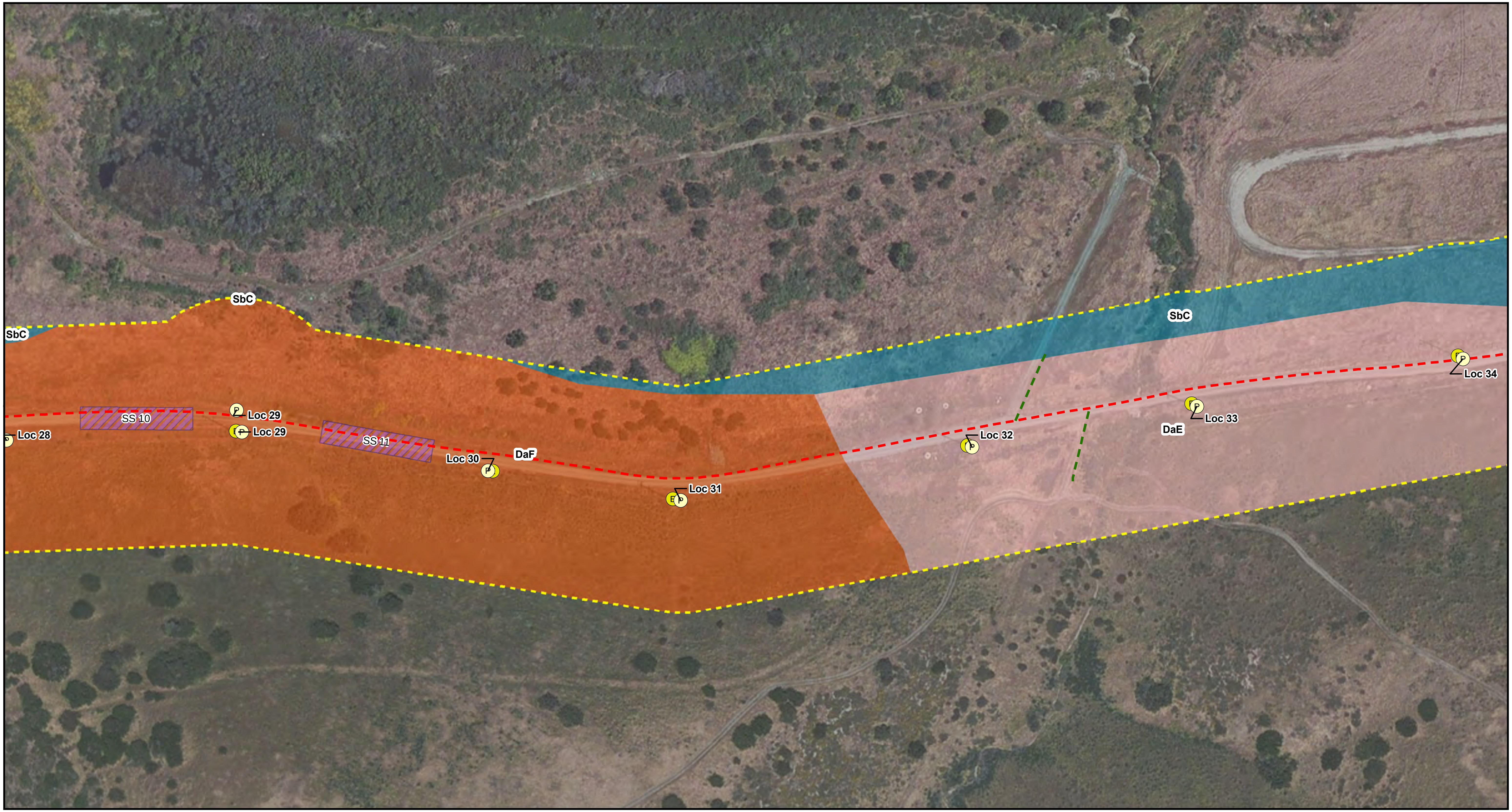
N

0 50 100 200
Feet

Figure 4

Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- Survey Corridor

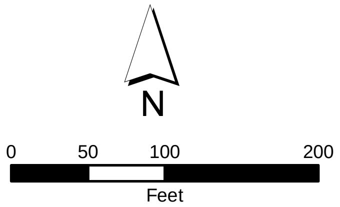
SSURGO Soils

Diablo – suitable for supporting vernal pools

- clay, 15 to 30 percent slopes - Not hydric
- clay, 30 to 50 percent slopes - Not hydric

Salinas

- clay loam, 2 to 9 percent slopes - Not hydric



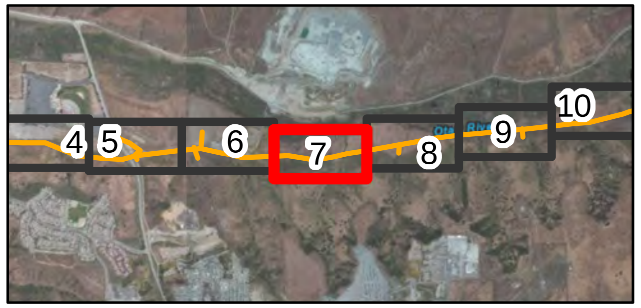
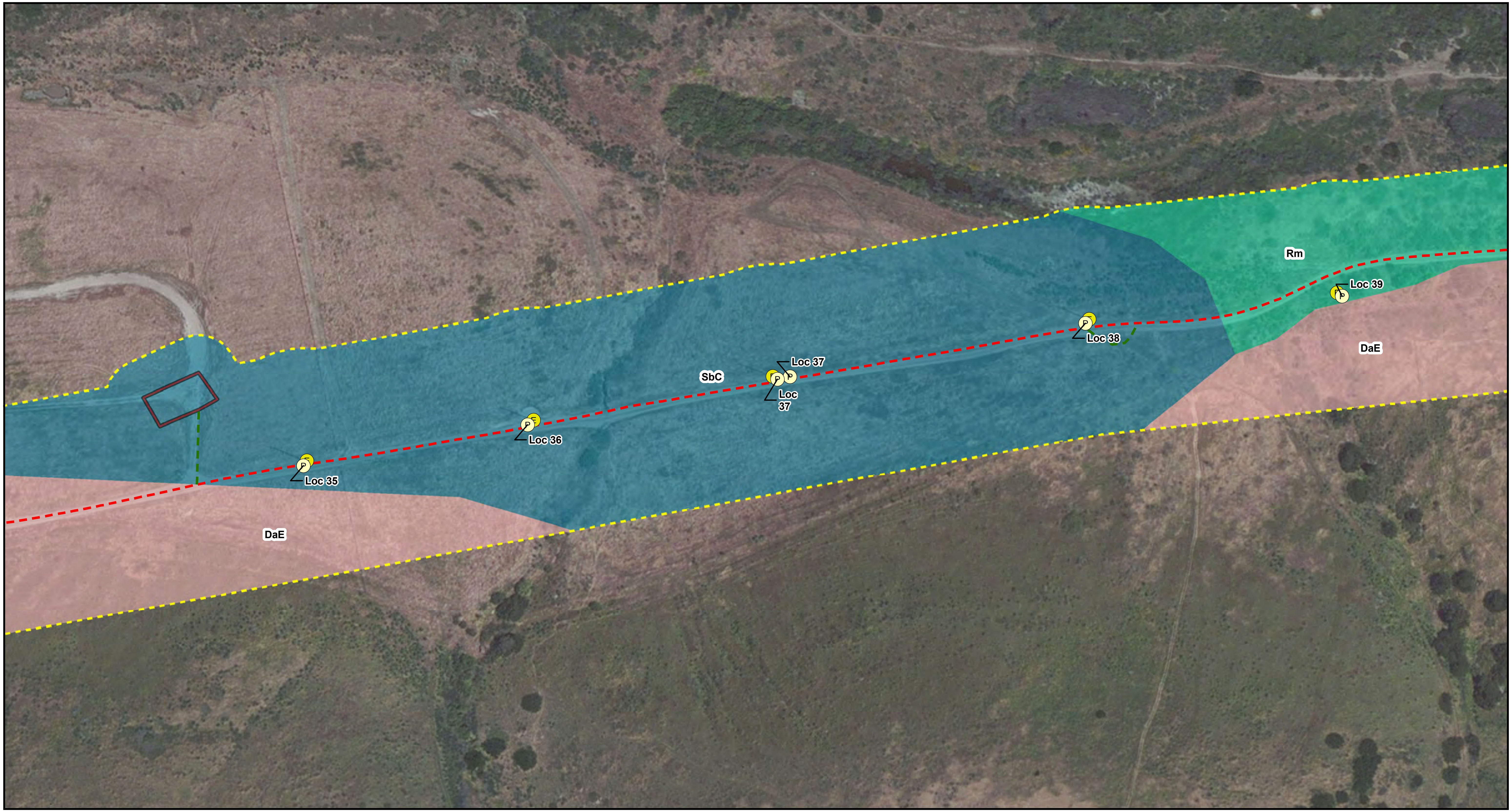


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▭ Turnaround Area
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟥 clay, 15 to 30 percent slopes - Not hydric

Salinas

- 🟦 clay loam, 2 to 9 percent slopes - Not hydric

Riverwash

- 🟩 Riverwash - All hydric

N

0 50 100 200
Feet

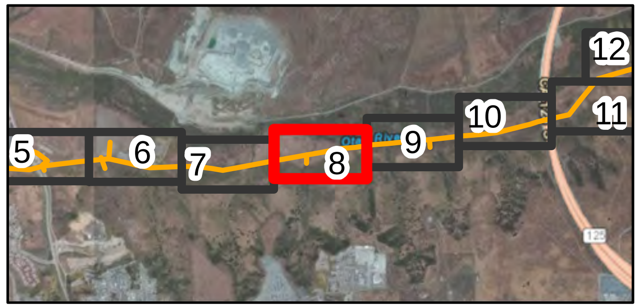


Figure 4

Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- clay, 15 to 30 percent slopes - Not hydric
- Gravel pits - Not hydric

Olivenhain – suitable for supporting vernal pools

- cobbly loam, 30 to 50 percent slopes - Not hydric

Riverwash

- Riverwash - All hydric

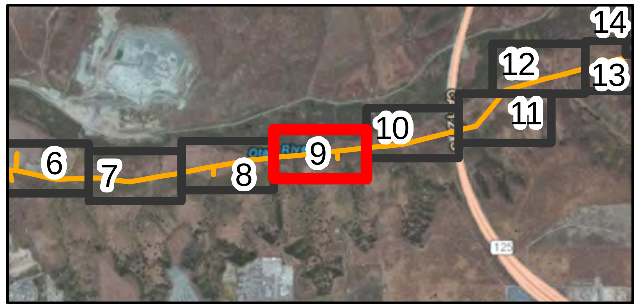
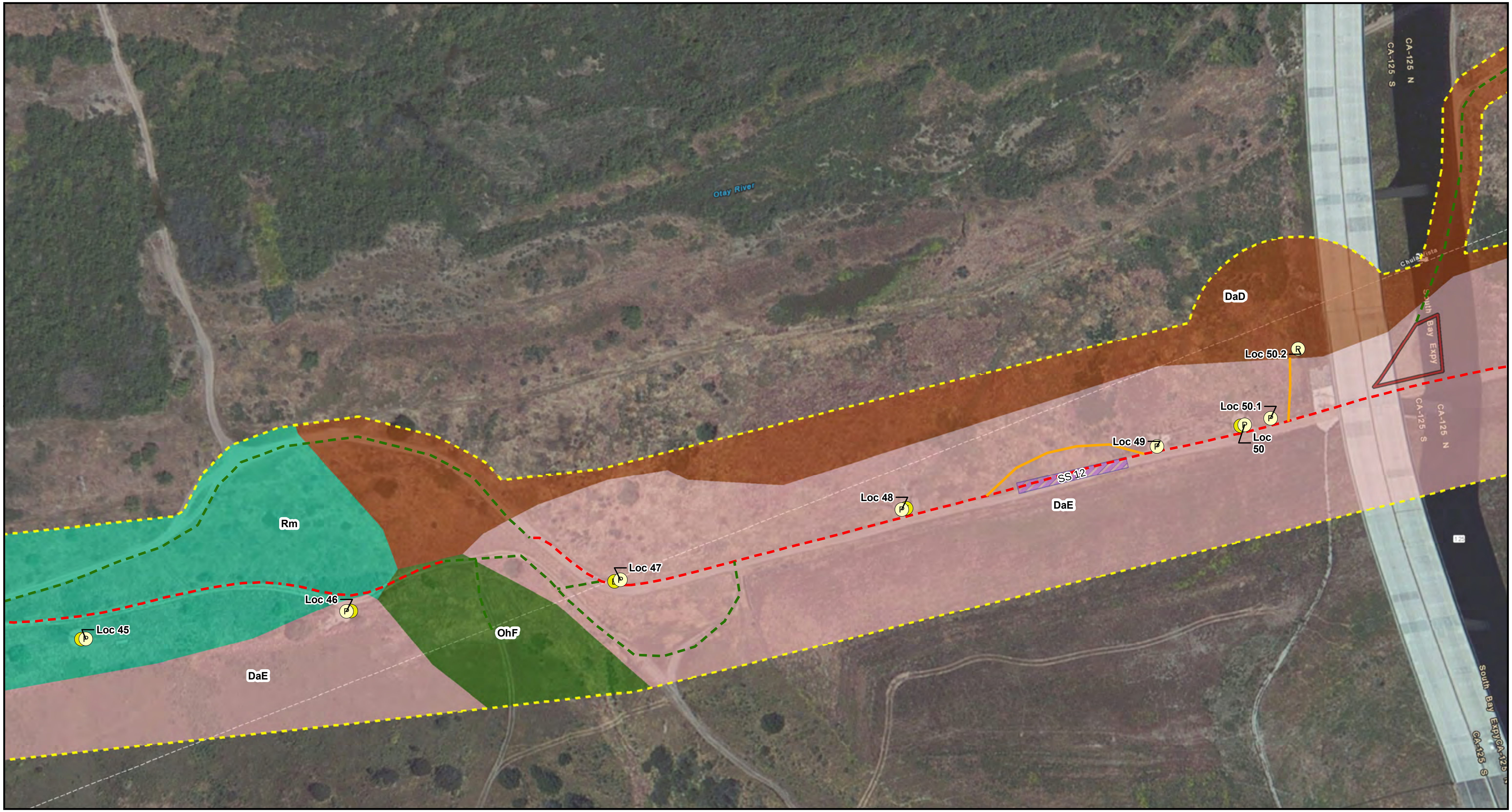


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

Ⓟ Project Pole
Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
— Overland Travel
▨ String Site
▭ Turnaround Area
- - - Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools
- clay, 15 to 30 percent slopes - Not hydric
- clay, 9 to 15 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools
- cobbly loam, 30 to 50 percent slopes - Not hydric

Riverwash
- Riverwash - All hydric

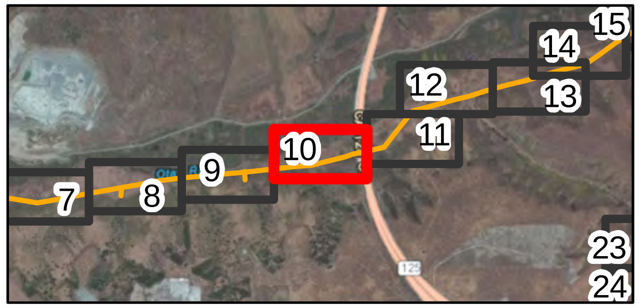
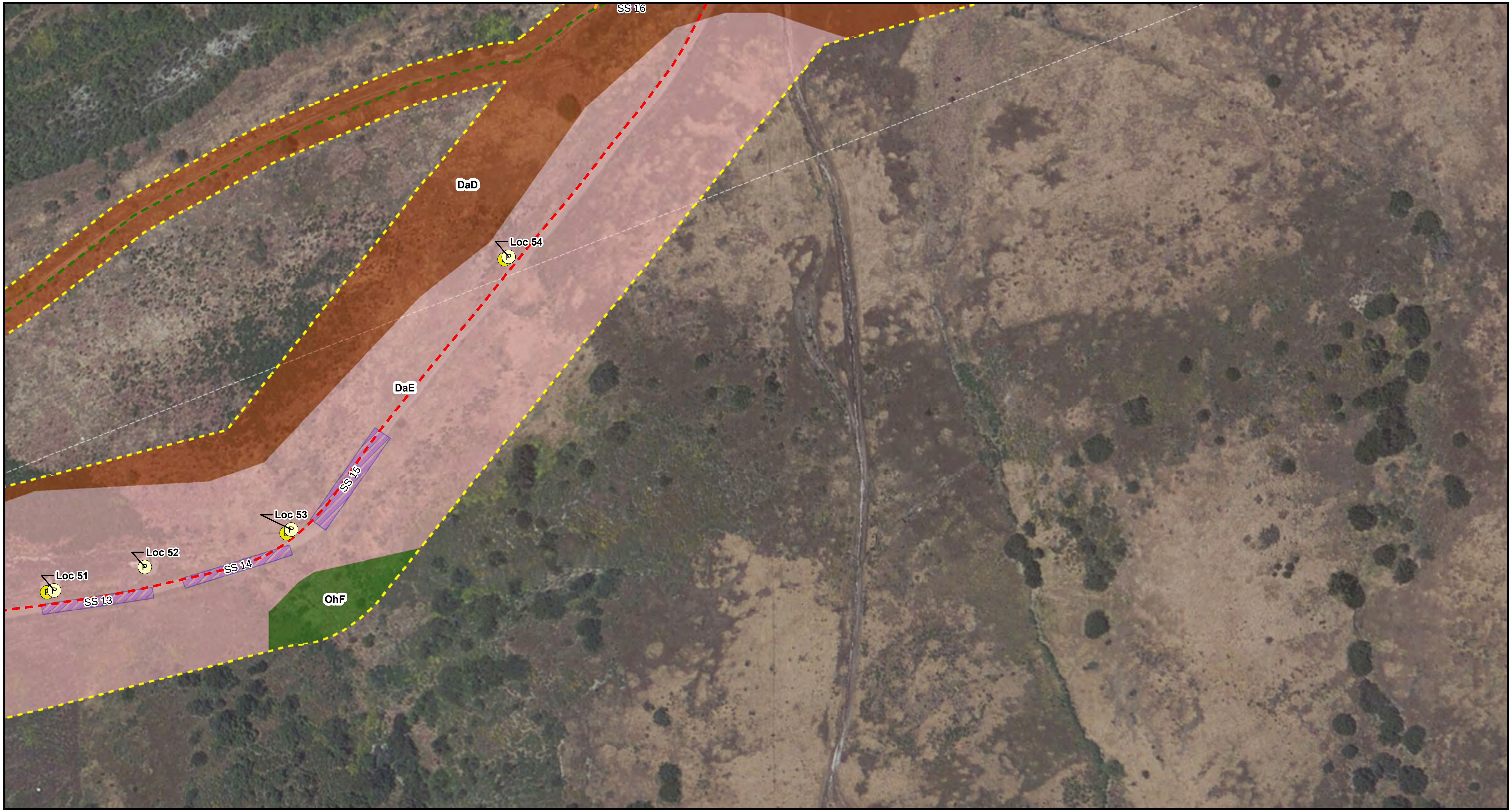


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

Ⓟ Project Pole
Ⓔ Existing Pole
Existing Non-TCM Access Road
Access Road
Overland Travel
▨ String Site
Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

clay, 15 to 30 percent slopes - Not hydric
clay, 9 to 15 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

cobbly loam, 30 to 50 percent slopes - Not hydric

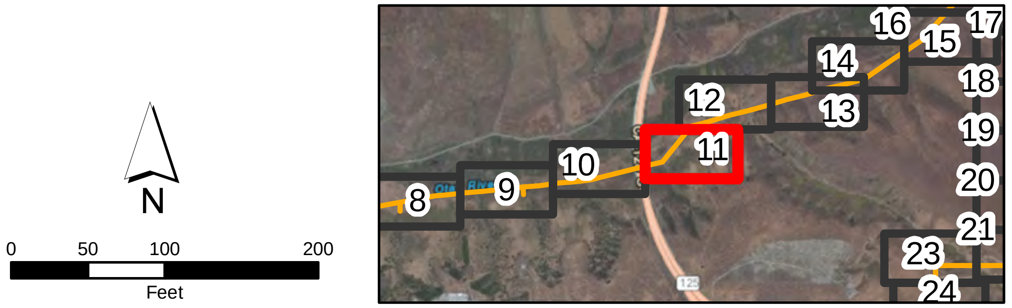
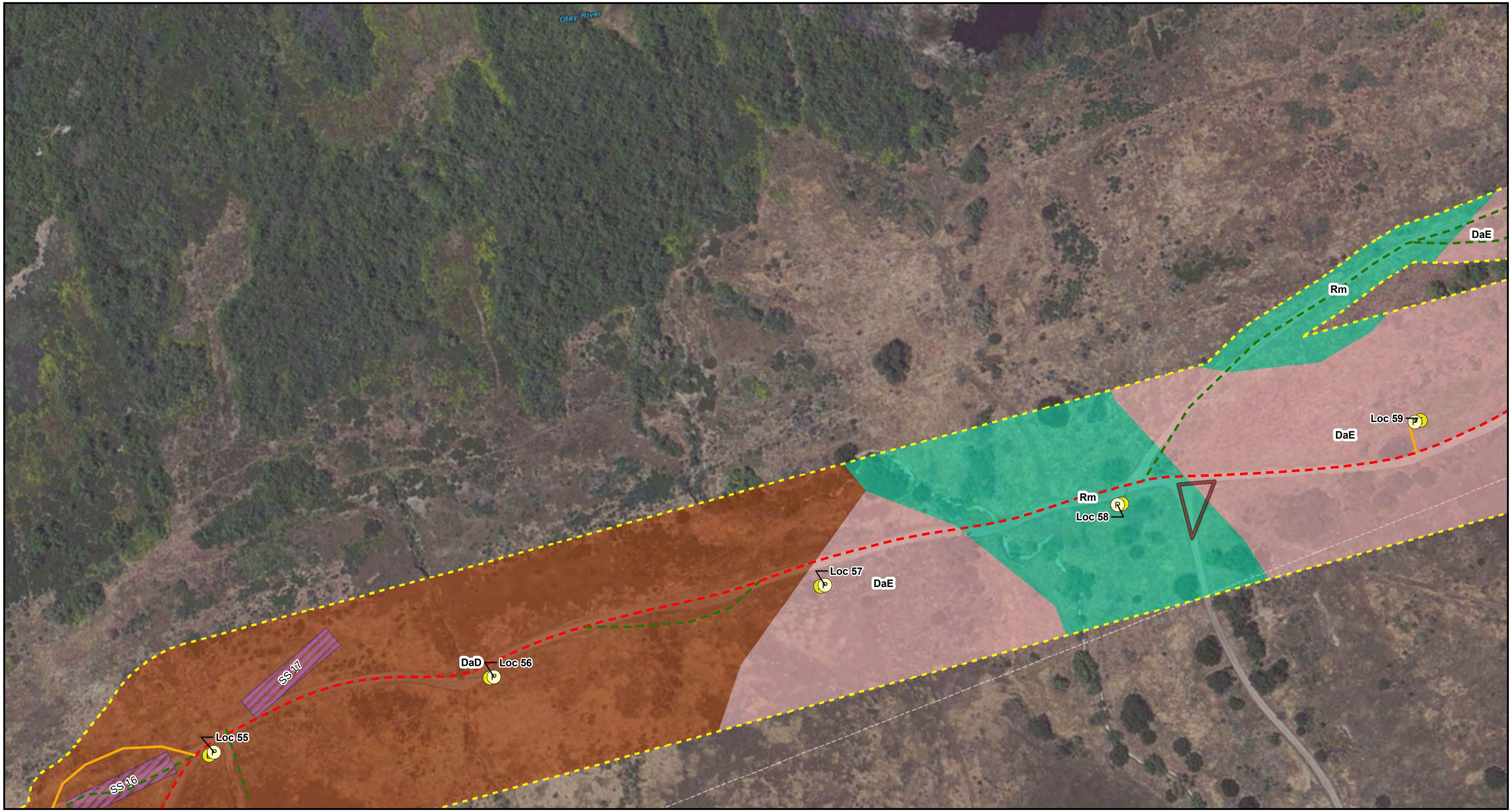


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- — Overland Travel
- ▨ String Site
- ☐ Turnaround Area
- - - Survey Corridor

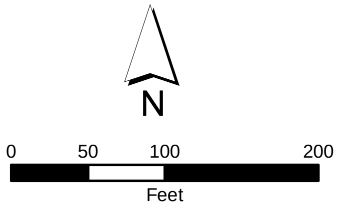
SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟥 clay, 15 to 30 percent slopes - Not hydric
- 🟫 clay, 9 to 15 percent slopes - Not hydric

Riverwash

- 🟩 Riverwash - All hydric



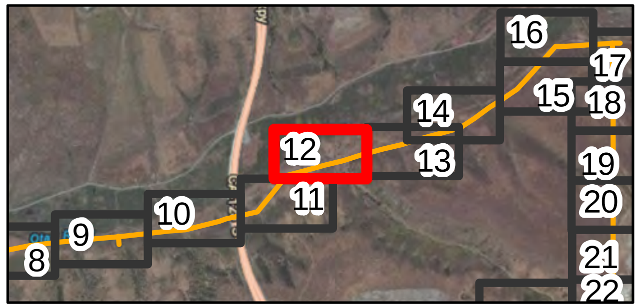
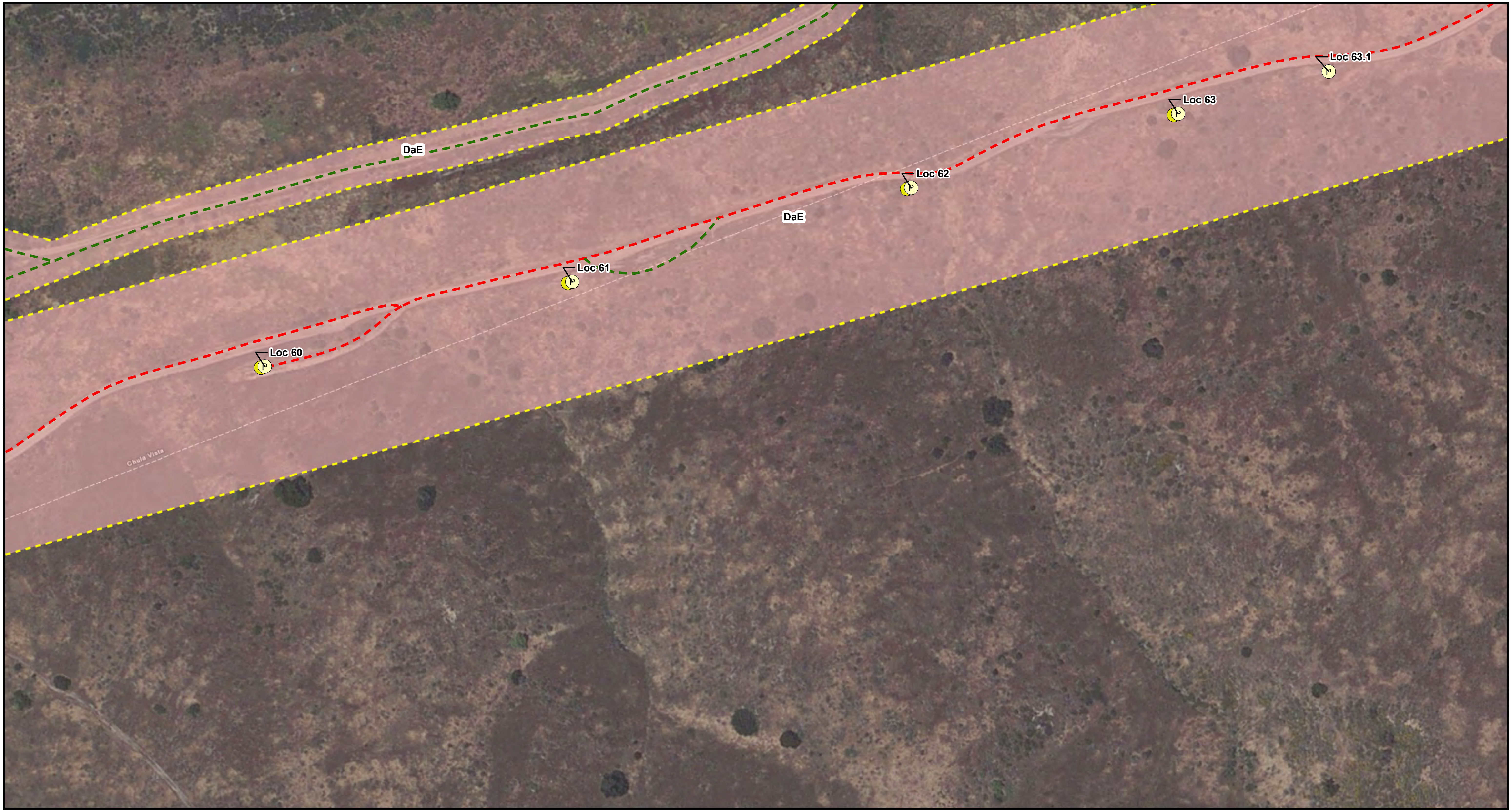


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



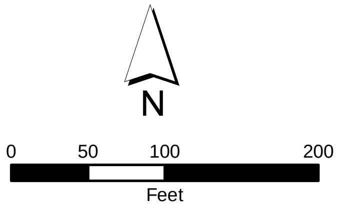
Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- ▭ clay, 15 to 30 percent slopes - Not hydric



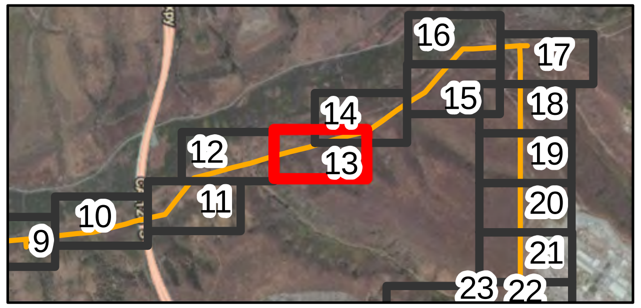


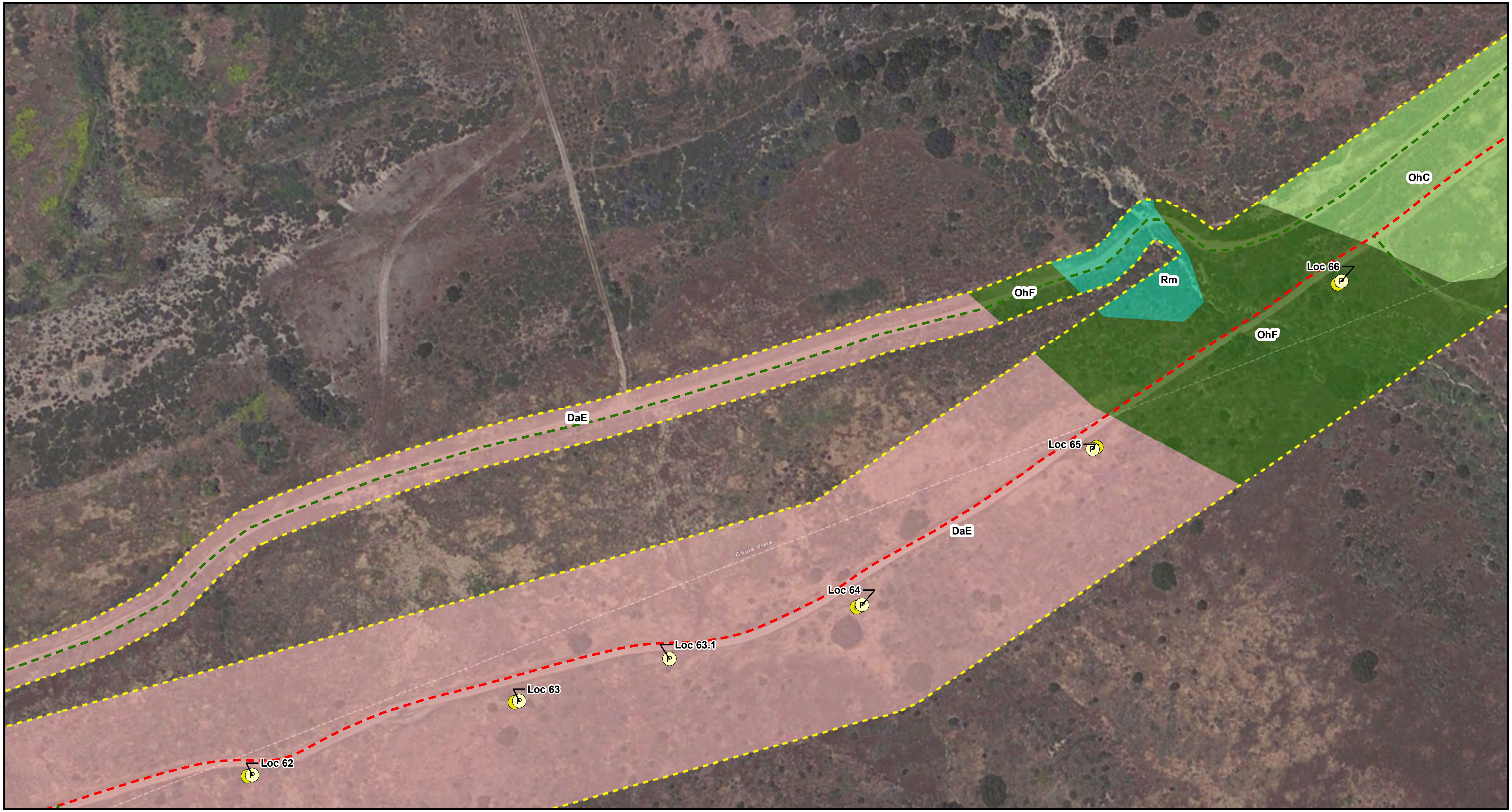
Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

CHAMBERS GROUP



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

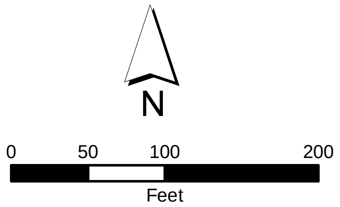
- clay, 15 to 30 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

- cobbly loam, 2 to 9 percent slopes - Partially hydric
- cobbly loam, 30 to 50 percent slopes - Not hydric

Riverwash

- Riverwash - All hydric



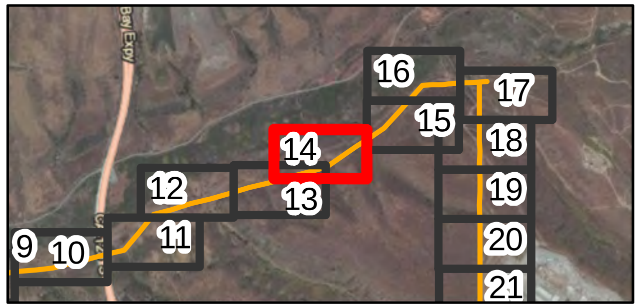
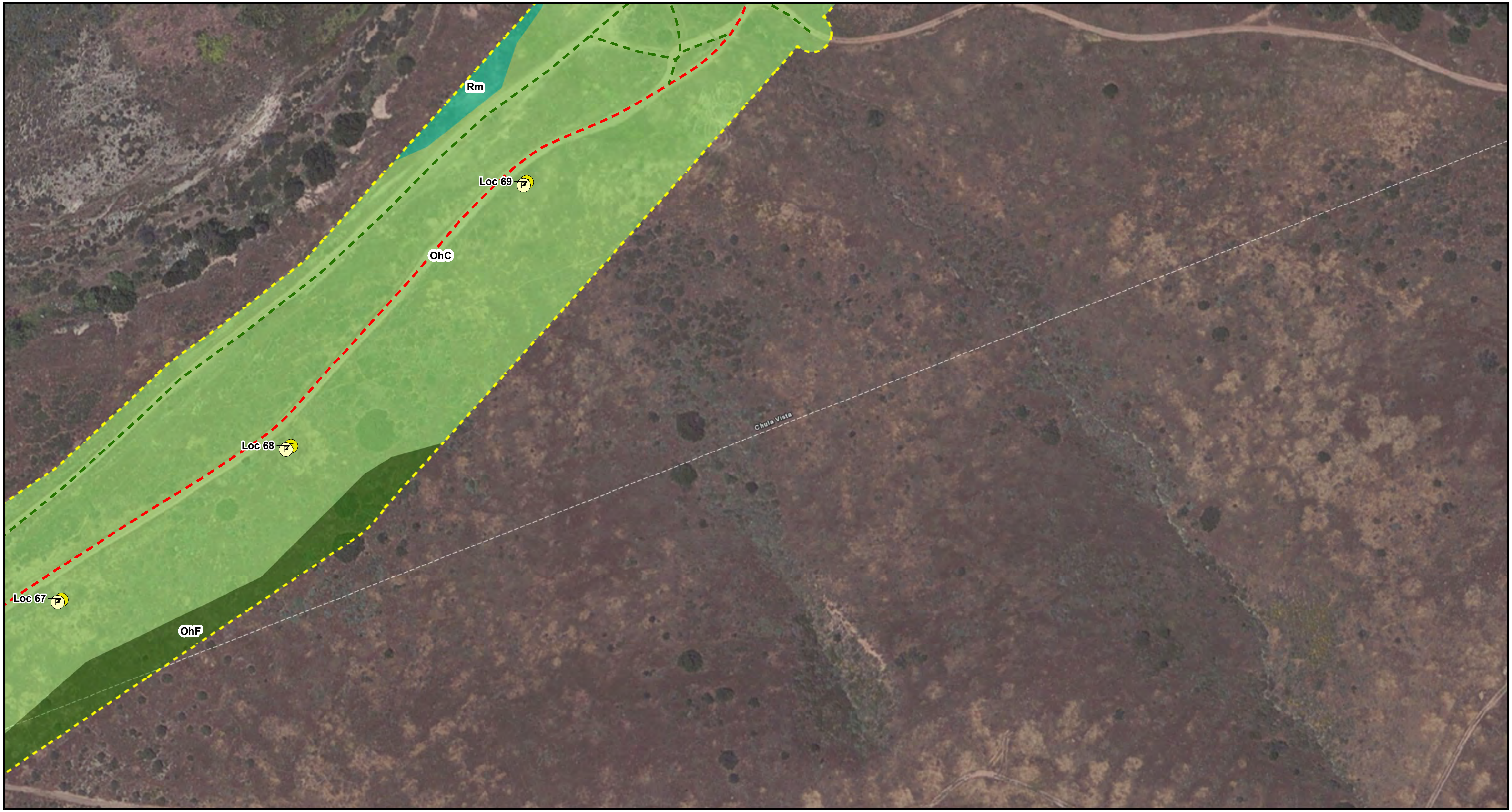


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

SSURGO Soils

Olivenhain – suitable for supporting vernal pools

- 🟩 cobbly loam, 2 to 9 percent slopes - Partially hydric
- 🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Riverwash

- 🟦 Riverwash - All hydric

N

0 50 100 200
Feet

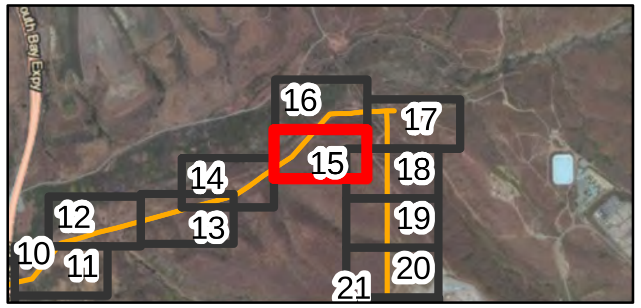


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

CHAMBERS GROUP

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▨ String Site
- ▭ Survey Corridor

SSURGO Soils

Olivenhain – suitable for supporting vernal pools

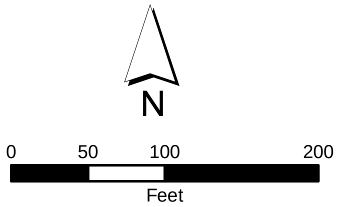
- 🟩 cobbly loam, 2 to 9 percent slopes - Partially hydric
- 🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Visalia

- 🟪 gravelly sandy loam, 2 to 5 percent slopes - Not hydric

Riverwash

- 🟦 Riverwash - All hydric



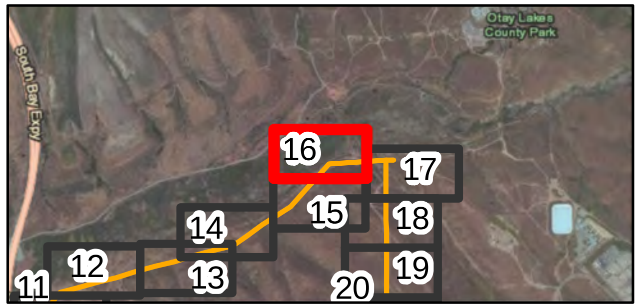
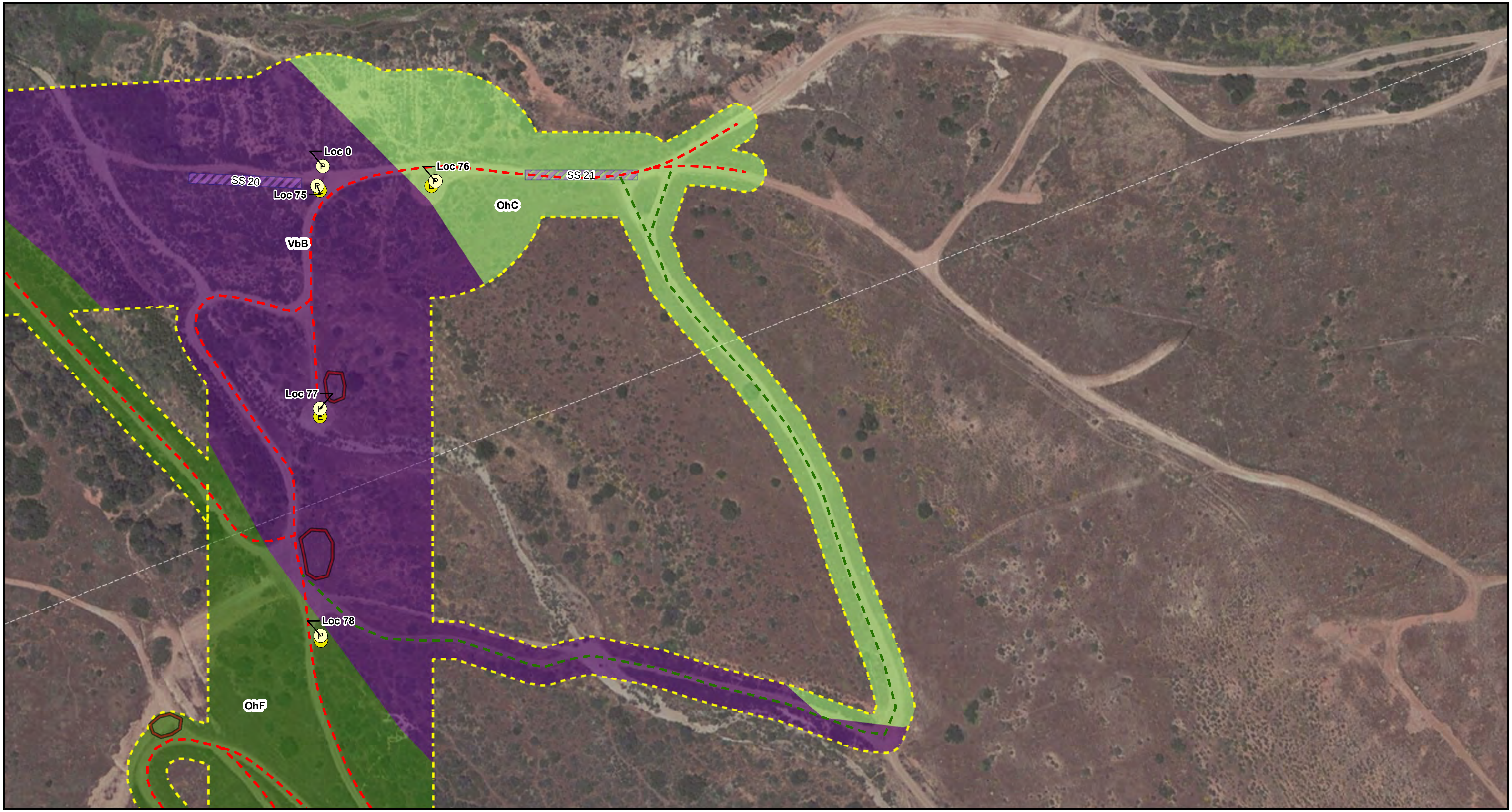


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▨ String Site
- ▭ Turnaround Area
- ⬚ Survey Corridor

SSURGO Soils

Olivenhain – suitable for supporting vernal pools

- 🟩 cobbly loam, 2 to 9 percent slopes - Partially hydric
- 🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Visalia

- 🟪 gravelly sandy loam, 2 to 5 percent slopes - Not hydric

N

0 50 100 200

Feet

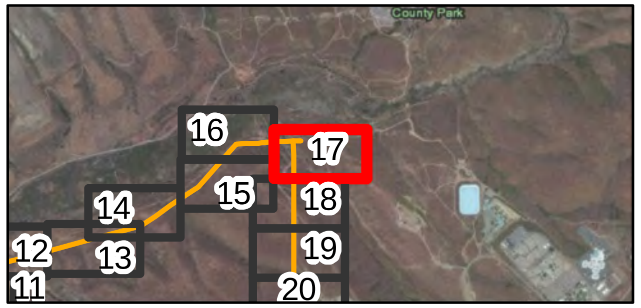


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ▭ Survey Corridor

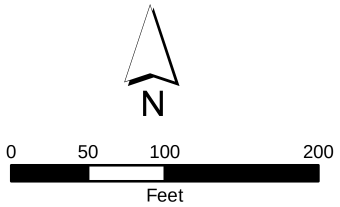
SSURGO Soils

Olivenhain – suitable for supporting vernal pools

🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Stockpen – suitable for supporting vernal pools

🟪 gravelly clay loam, 0 to 2 percent slopes - Partially hydric



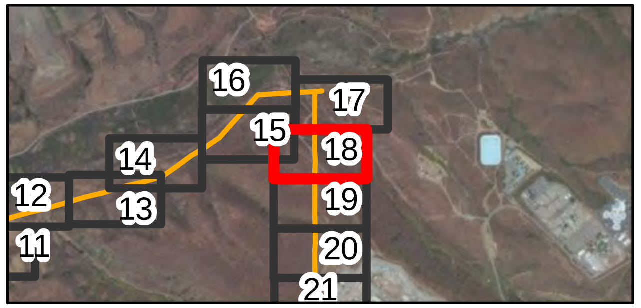


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre
CHAMBERS GROUP

Legend

Ⓟ Project Pole
Ⓔ Existing Pole
--- Existing Non-TCM Access Road
--- Access Road
▭ Survey Corridor

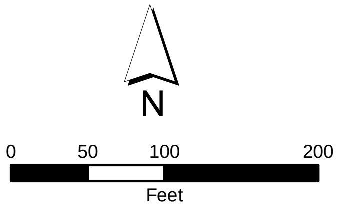
SSURGO Soils

Olivenhain – suitable for supporting vernal pools

🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Stockpen – suitable for supporting vernal pools

▨ gravelly clay loam, 0 to 2 percent slopes - Partially hydric



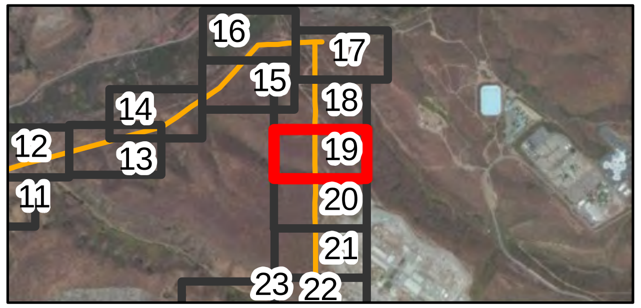


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ▭ Survey Corridor

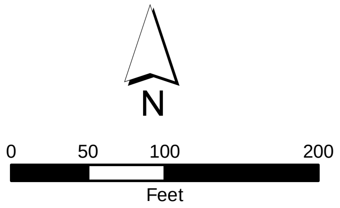
SSURGO Soils

Olivenhain – suitable for supporting vernal pools

🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Stockpen – suitable for supporting vernal pools

🟪 gravelly clay loam, 0 to 2 percent slopes - Partially hydric



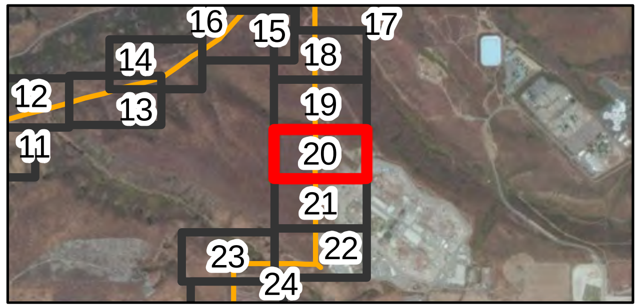


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ╍ Existing Non-TCM Access Road
- ╍ Access Road
- ▭ Survey Corridor

SSURGO Soils

Stockpen – suitable for supporting vernal pools

▨ gravelly clay loam, 0 to 2 percent slopes - Partially hydric

N

0 50 100 200
Feet

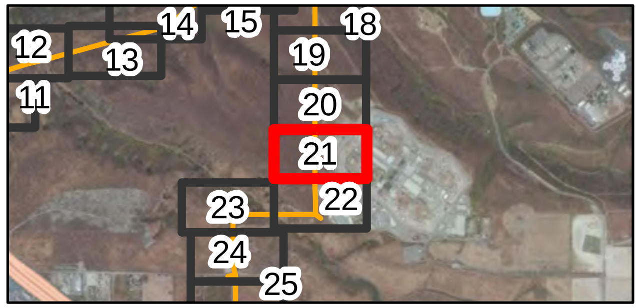


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- – – Existing Non-TCM Access Road
- – – Access Road
- — Overland Travel
- ▨ String Site
- ⬚ Survey Corridor

SSURGO Soils

Linne – suitable for supporting vernal pools

- 🟨 clay loam, 9 to 30 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

- 🟩 cobbly loam, 30 to 50 percent slopes - Not hydric

Stockpen – suitable for supporting vernal pools

- 🟪 gravelly clay loam, 0 to 2 percent slopes - Partially hydric

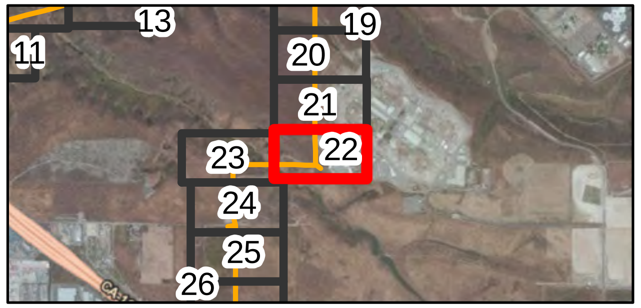


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

Ⓟ Project Pole
Ⓔ Existing Pole
- - Existing Non-TCM Access Road
- - Access Road
▨ String Site
⬚ Survey Corridor

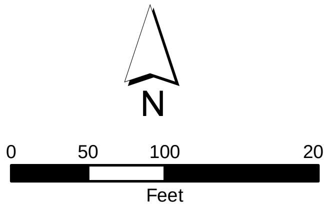
SSURGO Soils

Linne – suitable for supporting vernal pools

🟨 clay loam, 9 to 30 percent slopes - Not hydric

Olivenhain – suitable for supporting vernal pools

🟩 cobbly loam, 30 to 50 percent slopes - Not hydric



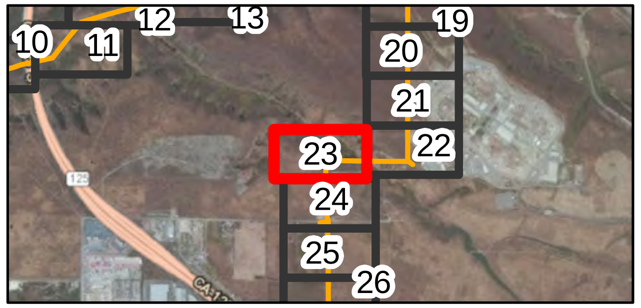


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- ▨ String Site
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟥 clay, 2 to 9 percent slopes - Not hydric

Linne – suitable for supporting vernal pools

- 🟨 clay loam, 9 to 30 percent slopes - Not hydric

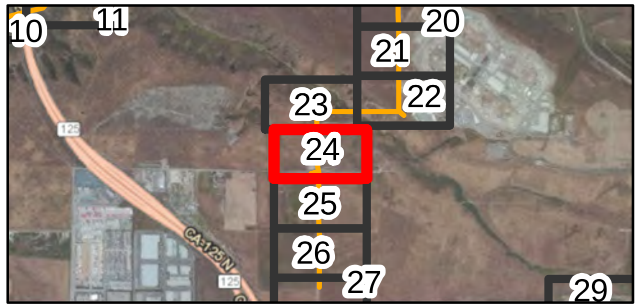


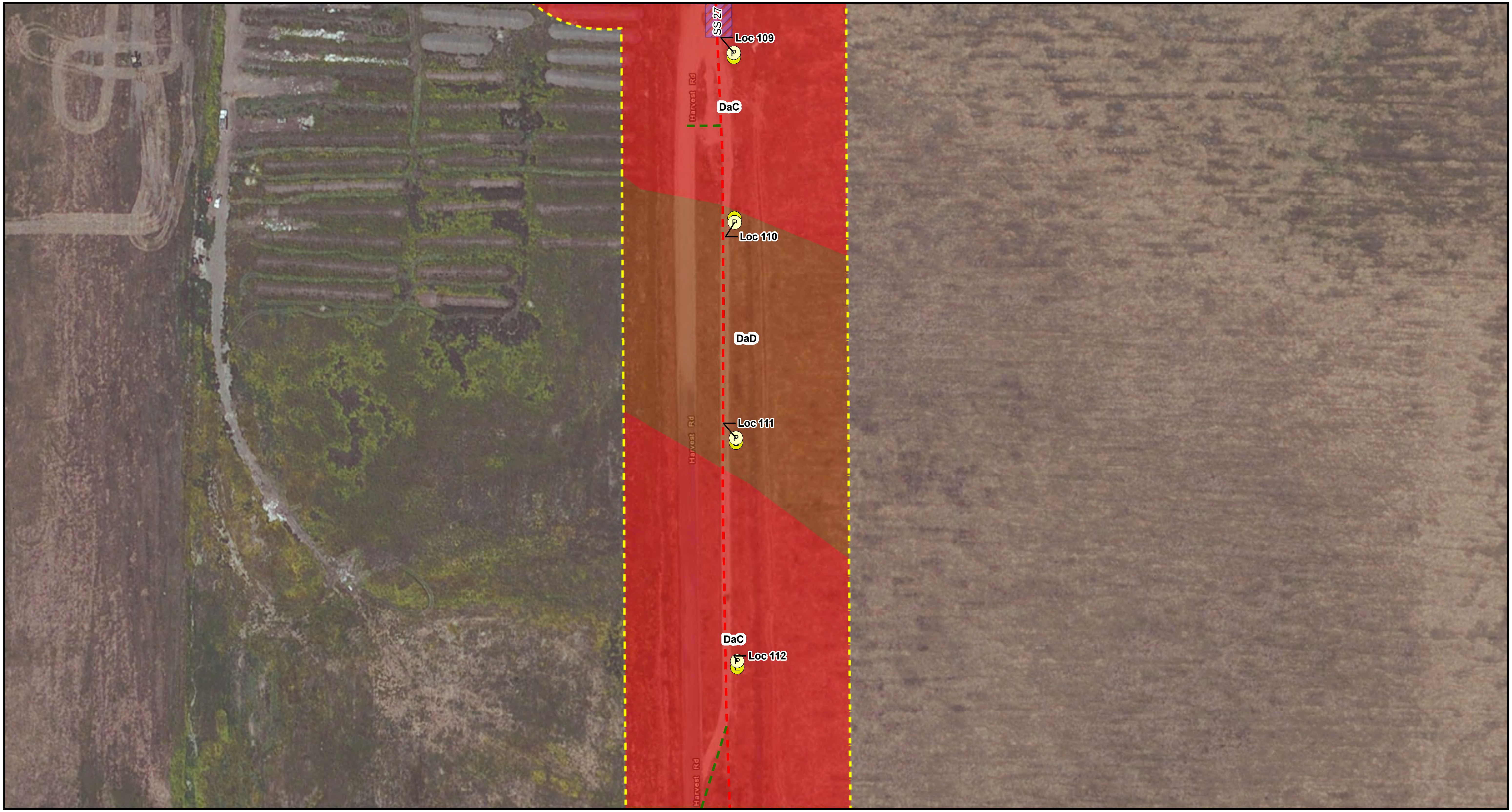
Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

CHAMBERS GROUP



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ▨ String Site
- ⬚ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟥 clay, 2 to 9 percent slopes - Not hydric
- 🟫 clay, 9 to 15 percent slopes - Not hydric

N

0 50 100 200

Feet

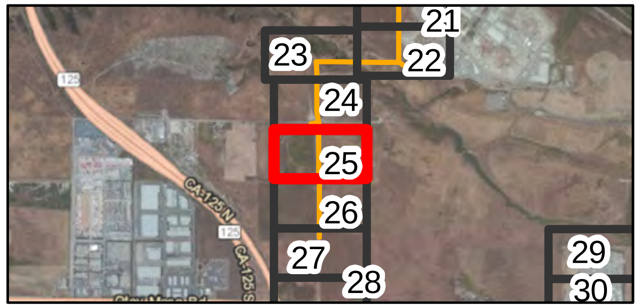


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ▨ String Site
- ⬚ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

- 🟥 clay, 2 to 9 percent slopes - Not hydric
- 🟫 clay, 9 to 15 percent slopes - Not hydric

N

0 50 100 200

Feet

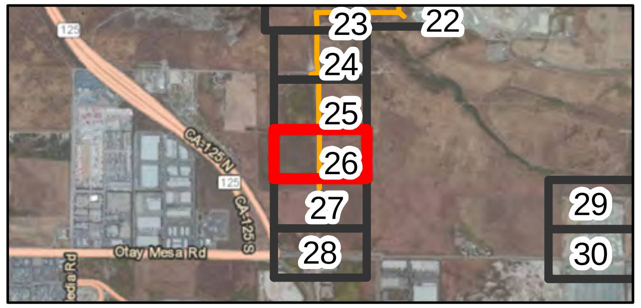


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▨ String Site
- ⬚ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟥 clay, 2 to 9 percent slopes - Not hydric

N

0 50 100 200
Feet

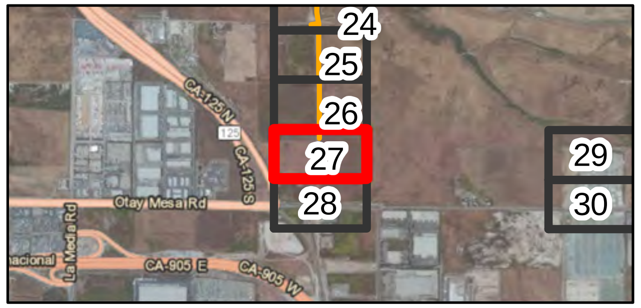
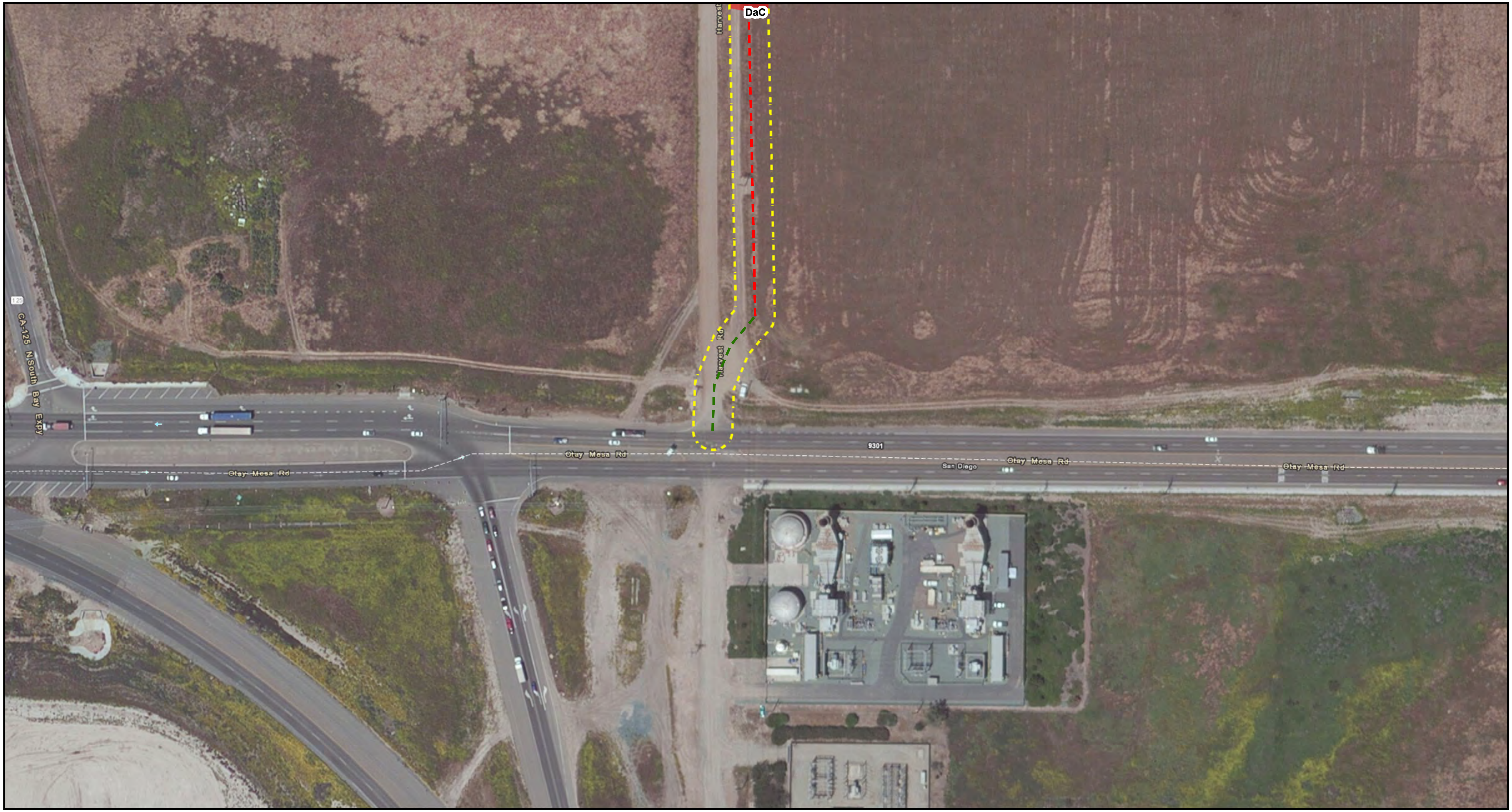


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

CHAMBERS GROUP



Legend

- Existing Non-TCM Access Road
- Access Road
- Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟥 clay, 2 to 9 percent slopes - Not hydric

N

0 50 100 200

Feet

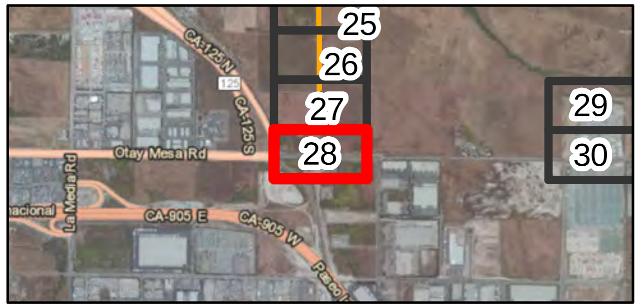
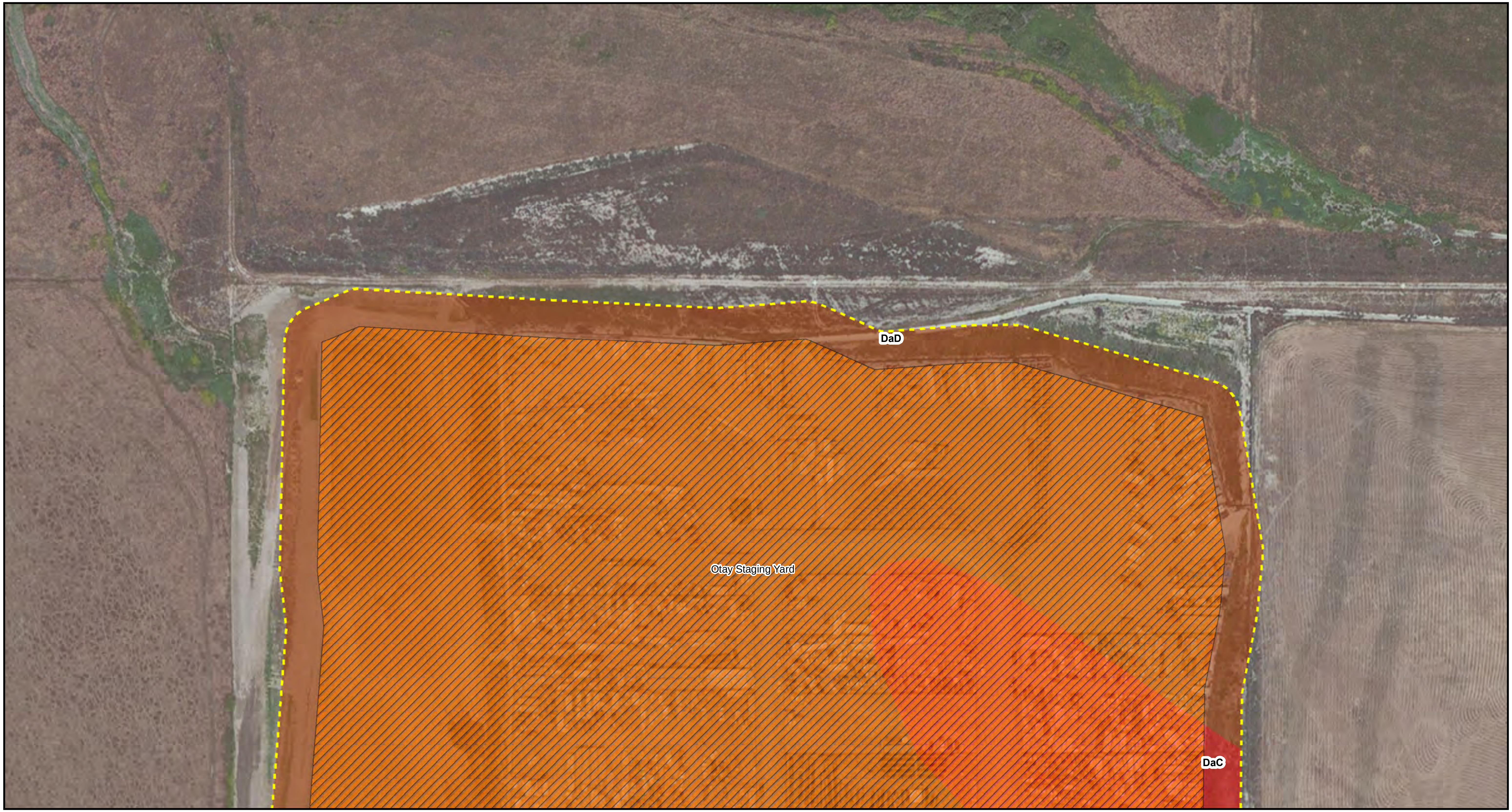


Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

▨ Staging Yard

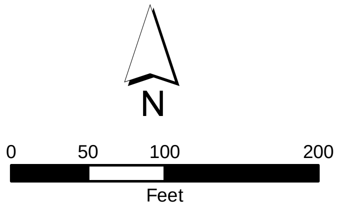
▭ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟥 clay, 2 to 9 percent slopes - Not hydric

🟫 clay, 9 to 15 percent slopes - Not hydric



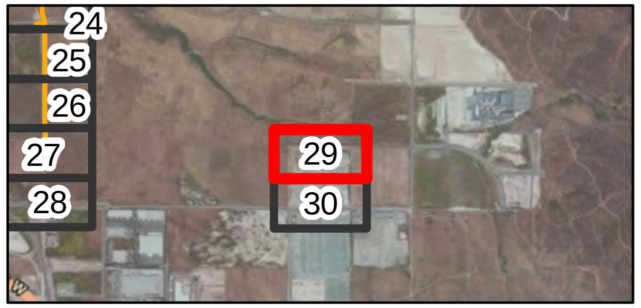
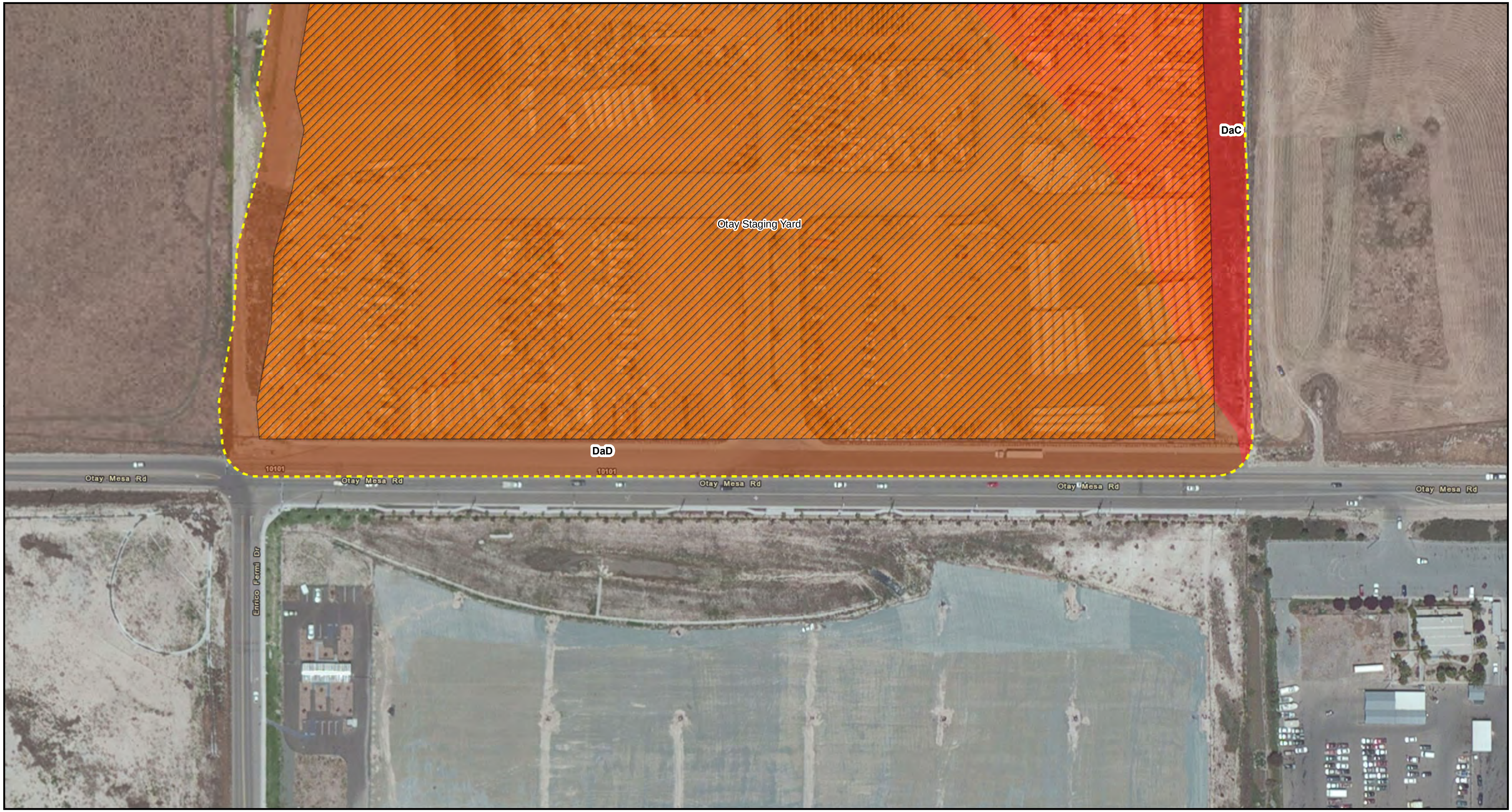


Figure 4
Soil Types
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre



Legend

▨ Staging Yard

⬚ Survey Corridor

SSURGO Soils

Diablo – suitable for supporting vernal pools

🟥 clay, 2 to 9 percent slopes - Not hydric

🟫 clay, 9 to 15 percent slopes - Not hydric

Figure 4

Soil Types

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig4 Soil Types.Mxd
Print Date: 4/20/2015, Author: stondre

Legend

▨ Staging Yard

┅ Survey Corridor

▆ Non-jurisdictional Road Rut [Bare Ground]

N

0 50 100 200
Feet

Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

CHAMBERS GROUP

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- ▭ Turnaround Area
- Survey Corridor
- 🟦 ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- 🟩 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Emergent Wetland]
- 🟧 CDFW Riparian [Riparian Scrub]

N

0 50 100 200

Feet

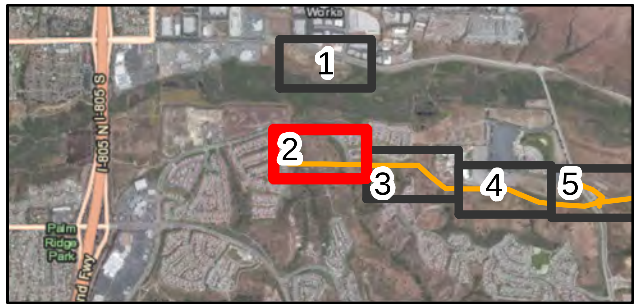


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- Survey Corridor
- 🟦 ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- 🟥 ACOE Wetland Waters, RWQCB Waters of the State [Riparian Scrub Wetland – Man-made Detention Basin]
- 🟧 CDFW Riparian [Riparian Scrub]

N

0 50 100 200

Feet

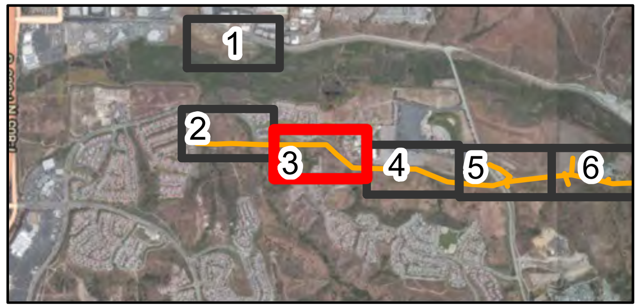


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

CHAMBERS GROUP

Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

Ⓟ Project Pole

Ⓔ Existing Pole

╥ Guard Structure

- - Existing Non-TCM Access Road

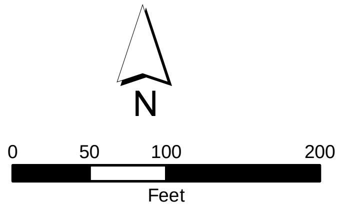
- - Access Road

▨ String Site

▭ Turnaround Area

▭ Survey Corridor

🟦 ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State



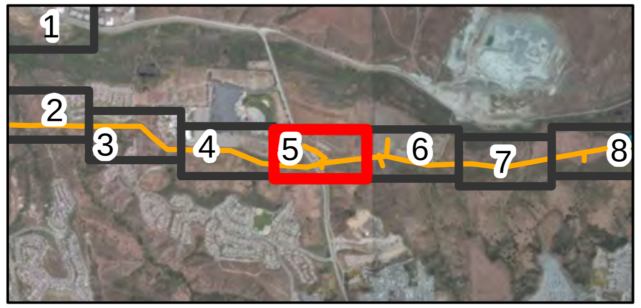


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- ▭ Turnaround Area
- Survey Corridor
- Non-jurisdictional Road Rut [Bare Ground]
- Non-jurisdictional Swale

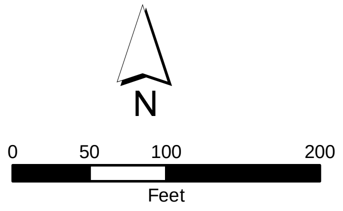
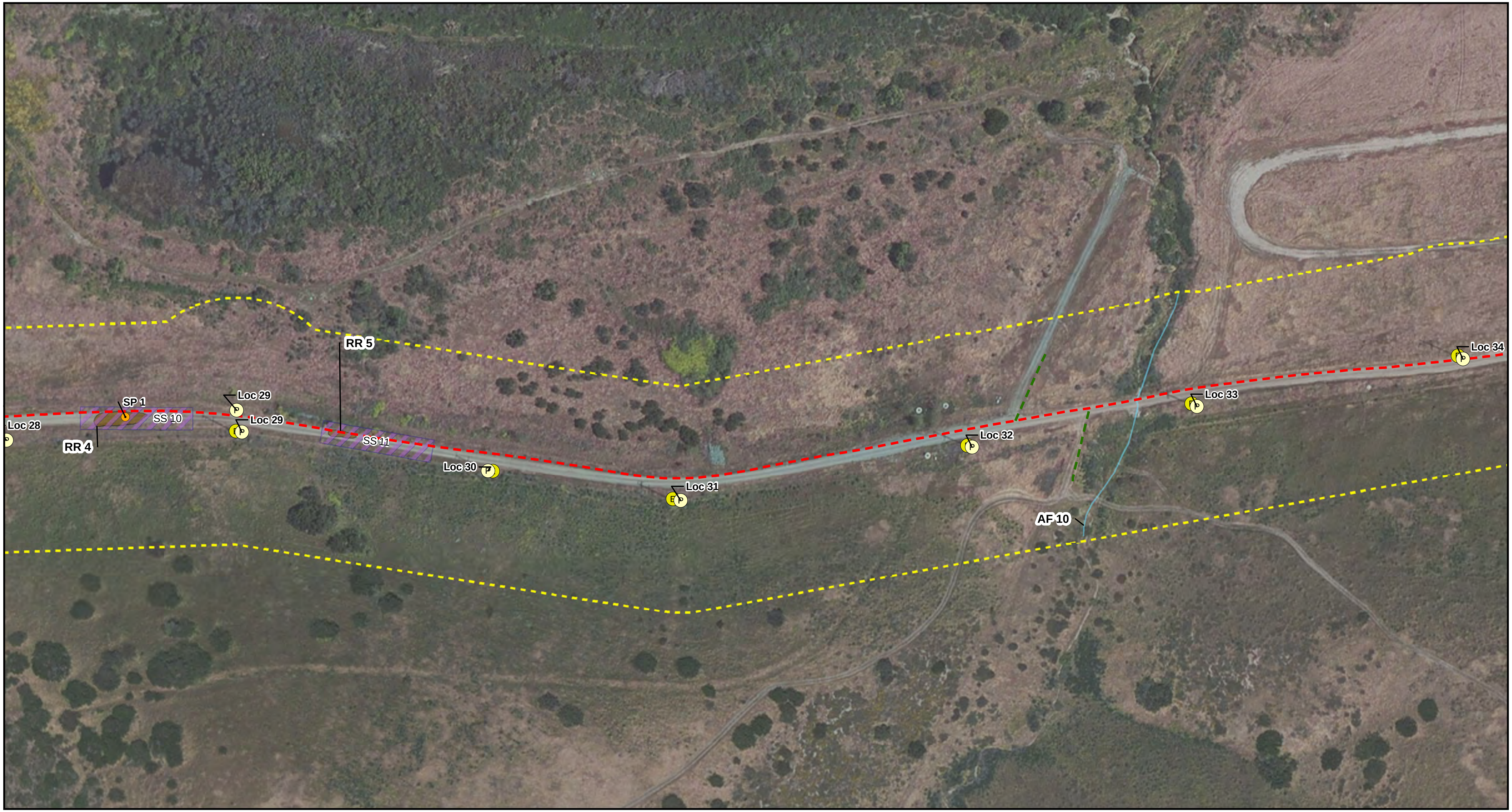


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre



Legend

Ⓟ	Project Pole
Ⓔ	Existing Pole
‒ ‒	Existing Non-TCM Access Road
‒ ‒	Access Road
▨	String Site
‒ ‒	Survey Corridor
●	Soil Pit
■	ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
■	Non-jurisdictional Road Rut [Bare Ground]

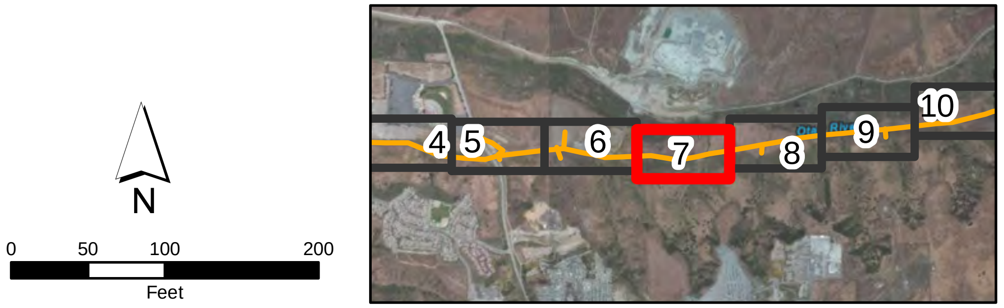
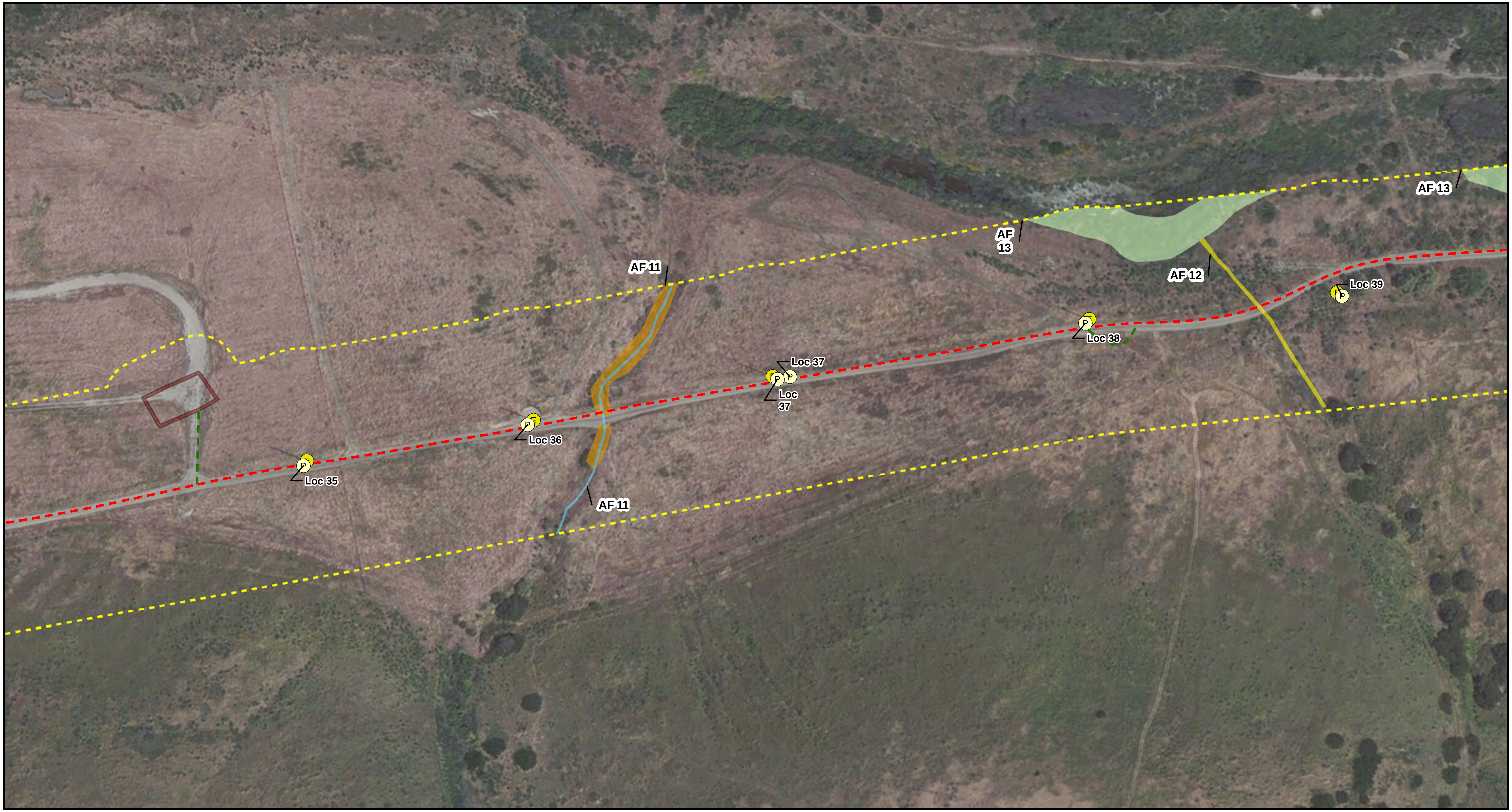


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre



Legend

Ⓟ	Project Pole
Ⓔ	Existing Pole
- -	Existing Non-TCM Access Road
- -	Access Road
▭	Turnaround Area
- -	Survey Corridor
🟦	ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
🟩	ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Riparian Scrub]
🟧	CDFW Riparian [Riparian Scrub]
🟨	Non-jurisdictional Swale

N

0 50 100 200
Feet

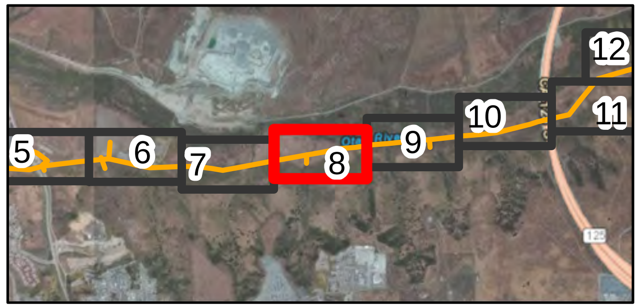


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- 🟩 Existing Non-TCM Access Road
- 🟥 Access Road
- 🟨 Survey Corridor
- 🟦 ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- 🟩 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Riparian Scrub]
- 🟨 Non-jurisdictional Swale

N

0 50 100 200

Feet

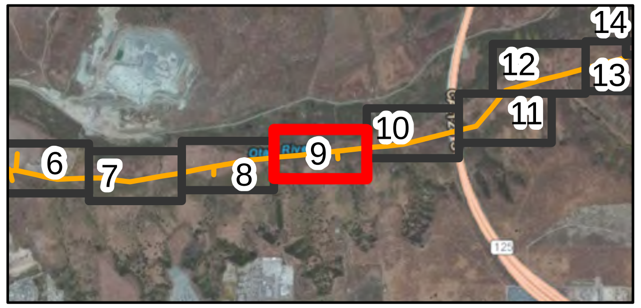


Figure 5

Jurisdictional Resources

TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

- P Project Pole
- E Existing Pole
- - - - Existing Non-TCM Access Road
- - - - Access Road
- — Overland Travel
- ▨ String Site
- ▭ Turnaround Area
- - - - Survey Corridor
- 🟪 Non-jurisdictional Brow Ditch and Dissapator [Bare Ground]
- 🟫 Non-jurisdictional Road Rut [Bare Ground]
- 🟨 Non-jurisdictional Swale

N

0 50 100 200
Feet

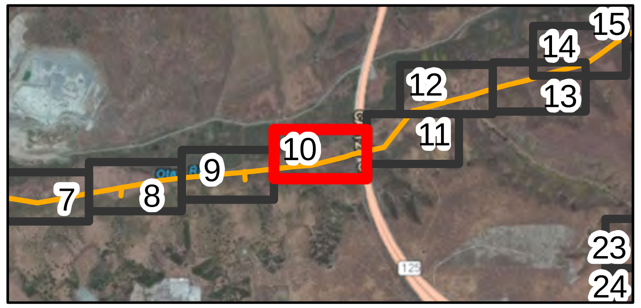
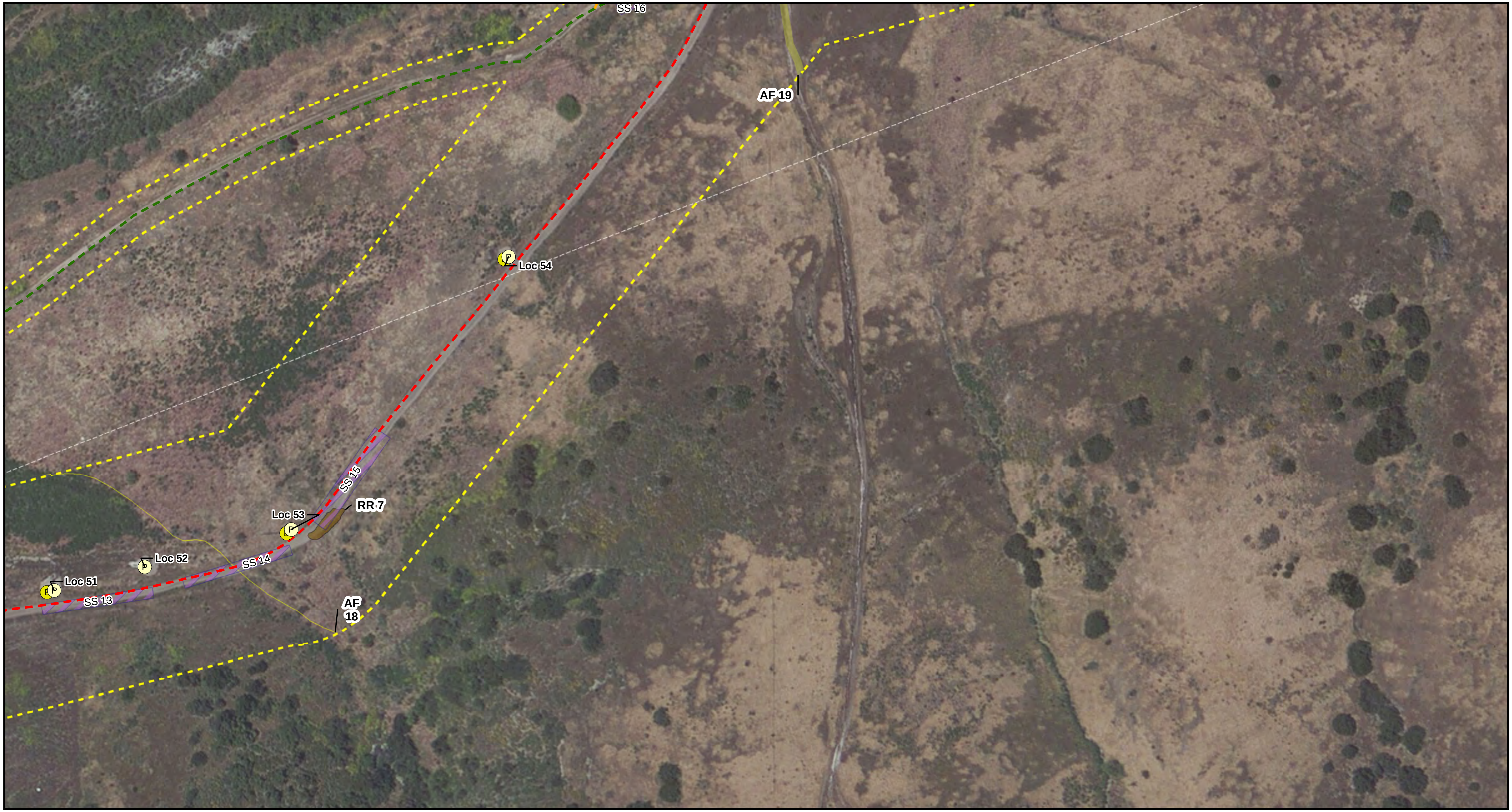


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre



Legend

P Project Pole

E Existing Pole

╍ Existing Non-TCM Access Road

╍ Access Road

— Overland Travel

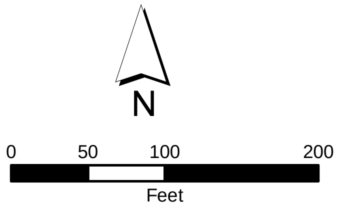
▨ String Site

⬚ Survey Corridor

🟫 Non-jurisdictional Road Rut [Bare Ground]

🟨 Non-jurisdictional Swale

🟩 Non-jurisdictional Erosional Feature



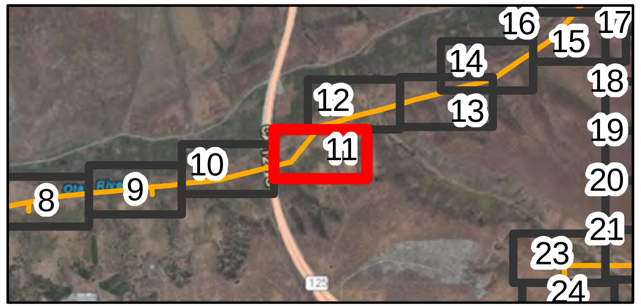


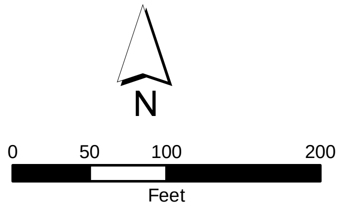
Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

CHAMBERS GROUP

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- ▨ String Site
- ▭ Turnaround Area
- Survey Corridor
- ▲ Culvert
- ● Soil Pit
- ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- ACOE Wetland Waters, RWQCB Waters of the State [Emergent Wetland]
- Non-jurisdictional Road Rut [Bare Ground]
- Non-jurisdictional Erosional Feature



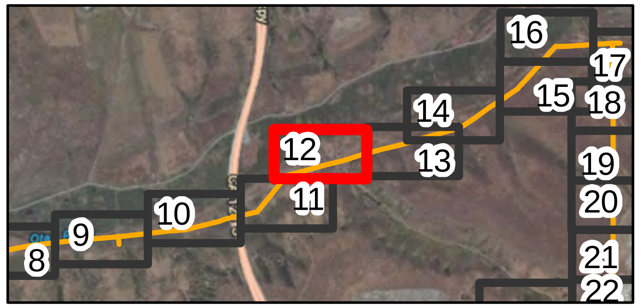


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

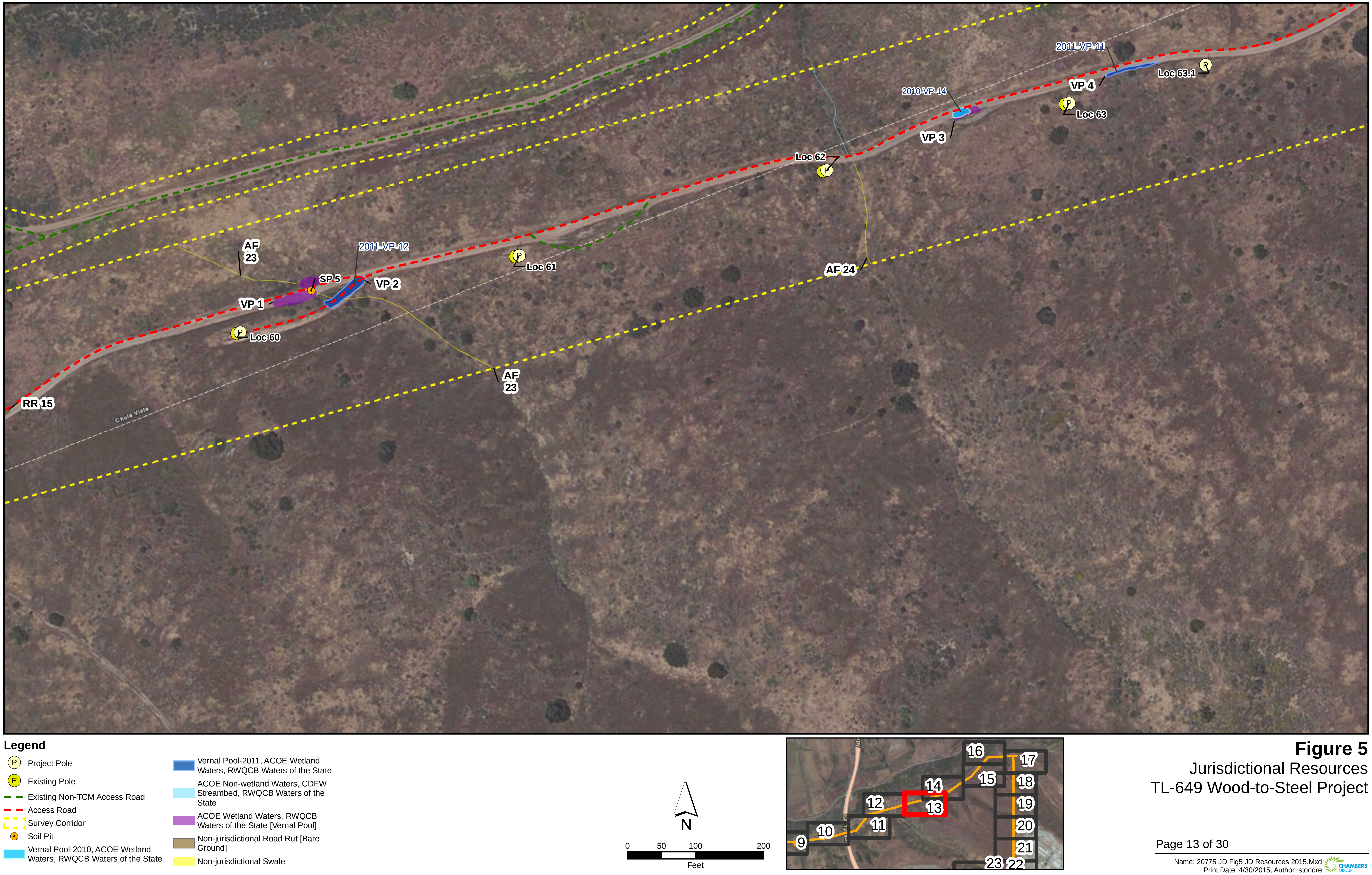


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ▭ Survey Corridor
- ■ Vernal Pool-2010, ACOE Wetland Waters, RWQCB Waters of the State
- ■ Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- ■ ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- ■ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]
- ■ Non-jurisdictional Road Rut [Bare Ground]
- ■ Non-jurisdictional Swale

N

0 50 100 200
Feet

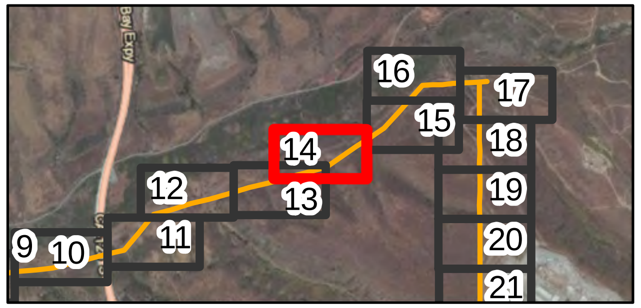


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

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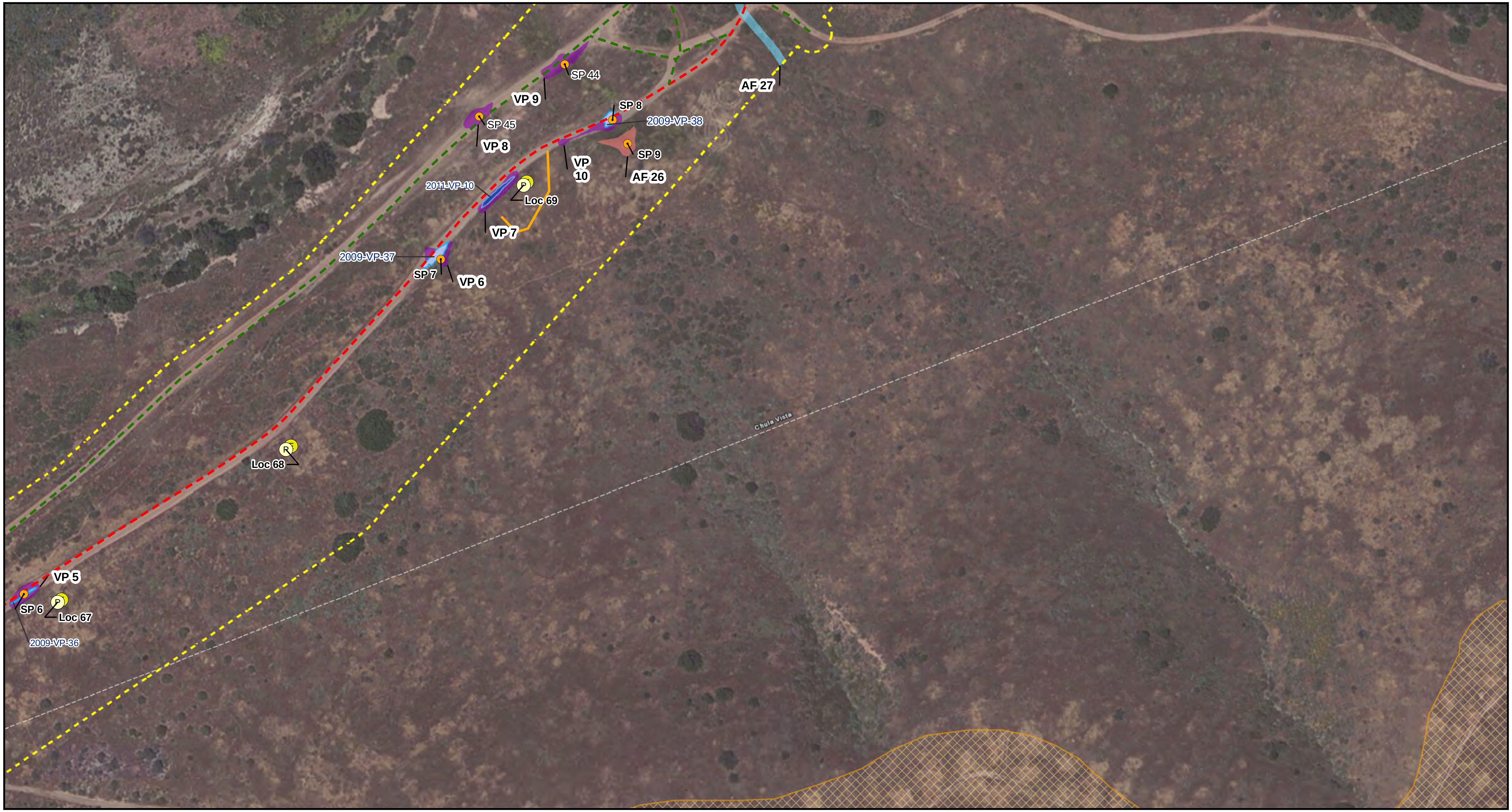

Legend

- P Project Pole
- E Existing Pole
- ▬ ▬ Existing Non-TCM Access Road
- ▬ ▬ Access Road
- ▬ Overland Travel
- ▭ Survey Corridor
- ● Soil Pit
- ▭ Vernal Pool-2009, ACOE Wetland Waters, RWQCB Waters of the State
- ▬ Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- ▬ ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- ▬ ACOE Wetland Waters, RWQCB Waters of the State [Emergent Wetland]
- ▬ ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

N

0 50 100 200
Feet

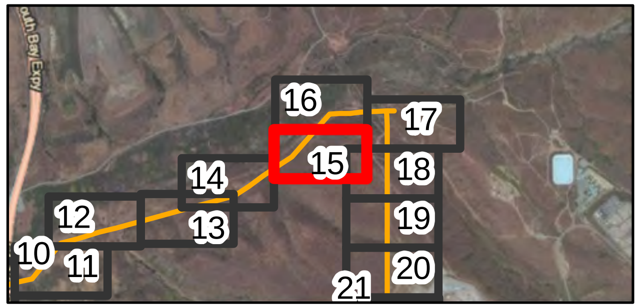

Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

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Print Date: 4/30/2015, Author: stondre

Legend

Ⓟ Project Pole

Ⓔ Existing Pole

Existing Non-TCM Access Road

Access Road

▨ String Site

Survey Corridor

Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State

ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State

ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

Non-jurisdictional Road Rut [Bare Ground]

N

0 50 100 200

Feet

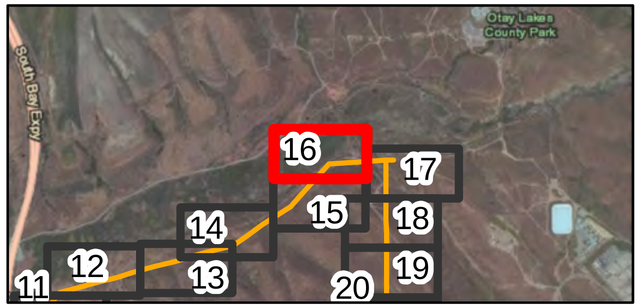

Figure 5

Jurisdictional Resources

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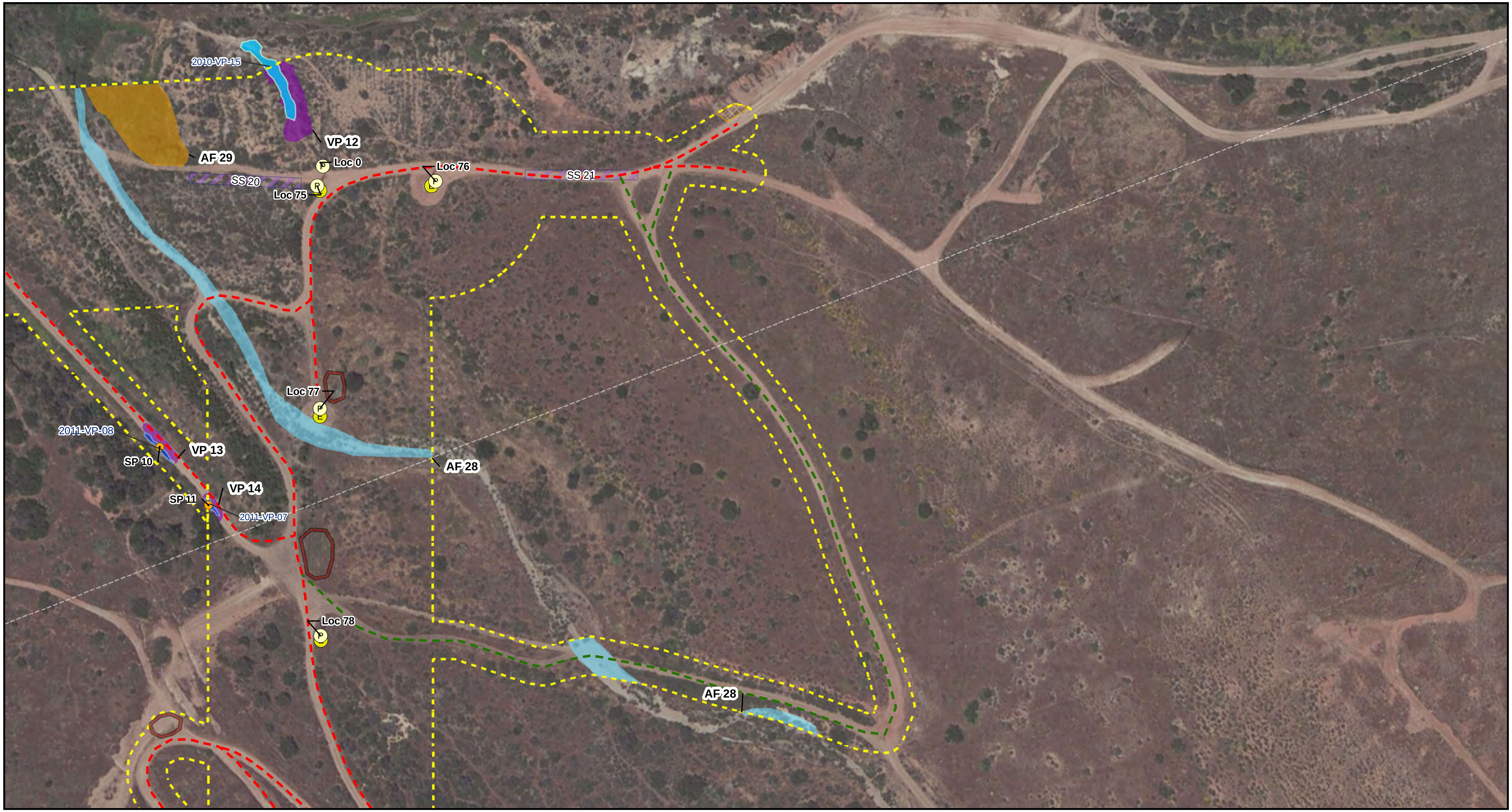

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- - - Existing Non-TCM Access Road
- - - Access Road
- ▨ String Site
- ▭ Turnaround Area
- ⋯ Survey Corridor
- ● Soil Pit
- 🟦 Vernal Pool-2010, ACOE Wetland Waters, RWQCB Waters of the State
- 🟦 Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- ▨ San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State
- 🟦 ACOE Non-wetland Waters, CDFW Streambed, RWQCB Waters of the State
- 🟪 ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]
- 🟧 CDFW Riparian [Riparian Scrub]

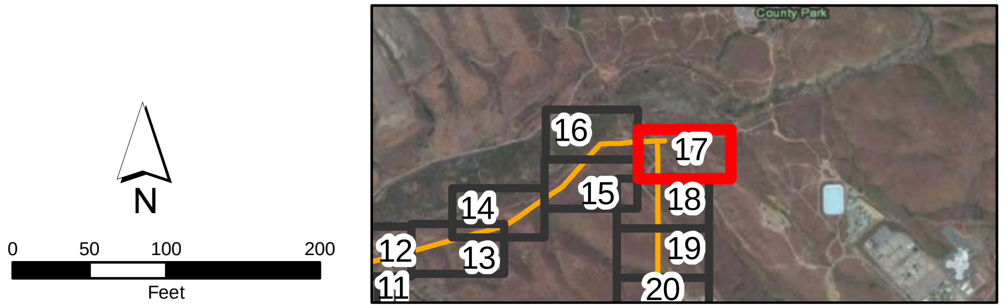

Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
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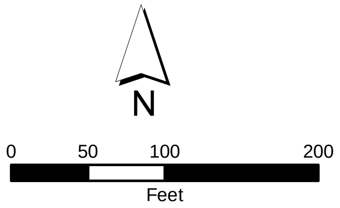
Legend

Ⓟ Project Pole
Ⓔ Existing Pole
- - Existing Non-TCM Access Road
- - Access Road
▭ Survey Corridor
▨ San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State



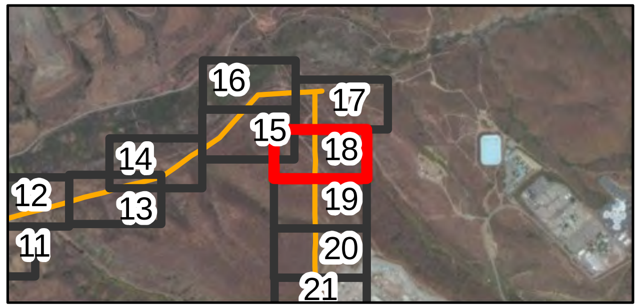


Figure 5
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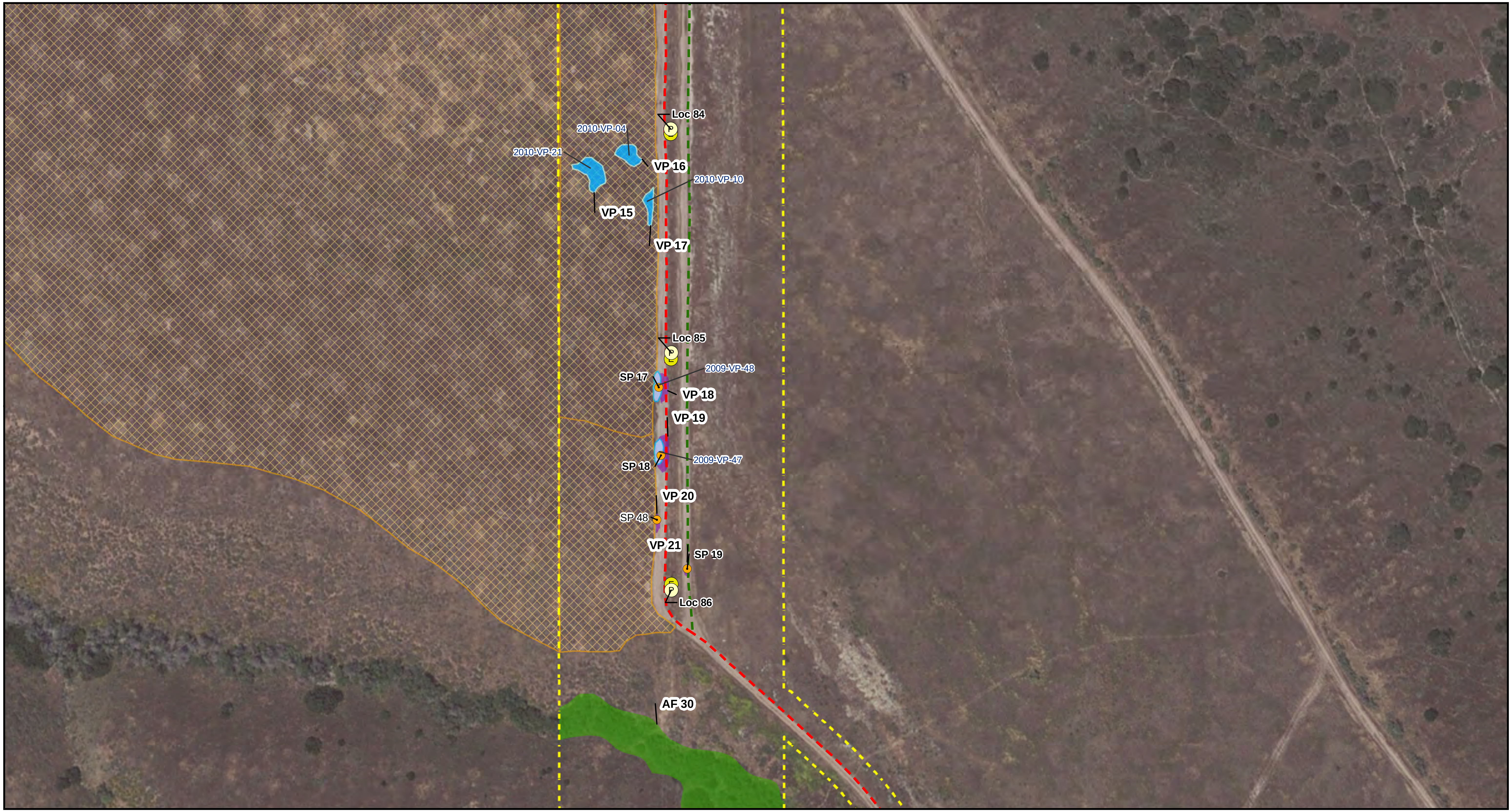
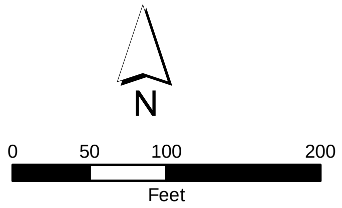


Legend

Ⓟ	Project Pole	🟦	Vernal Pool-2010, ACOE Wetland Waters, RWQCB Waters of the State
Ⓔ	Existing Pole	▨	San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State
- -	Existing Non-TCM Access Road	🟩	ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Southern Willow Scrub]
- -	Access Road	🟪	ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]
▭	Survey Corridor		
●	Soil Pit		
▭	Vernal Pool-2009, ACOE Wetland Waters, RWQCB Waters of the State		



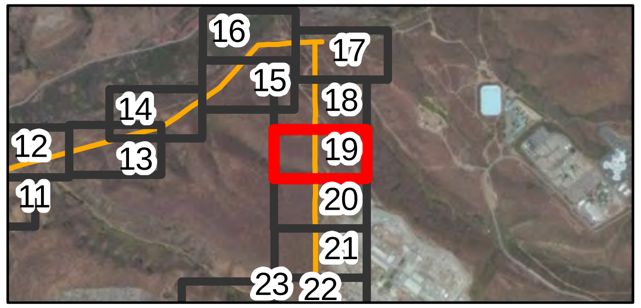


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

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Print Date: 4/30/2015, Author: stondre

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor
- ▲ Culvert
- ● Soil Pit
- 🟦 Vernal Pool-2009, ACOE Wetland Waters, RWQCB Waters of the State
- 🟦 Vernal Pool-2010, ACOE Wetland Waters, RWQCB Waters of the State
- 🟦 Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- ▨ San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State
- 🟩 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Southern Willow Scrub]
- 🟪 ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

N

0 50 100 200
Feet

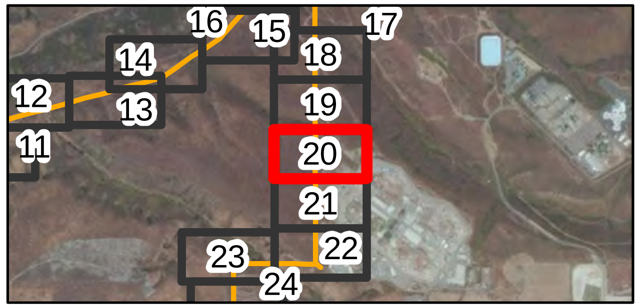

Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

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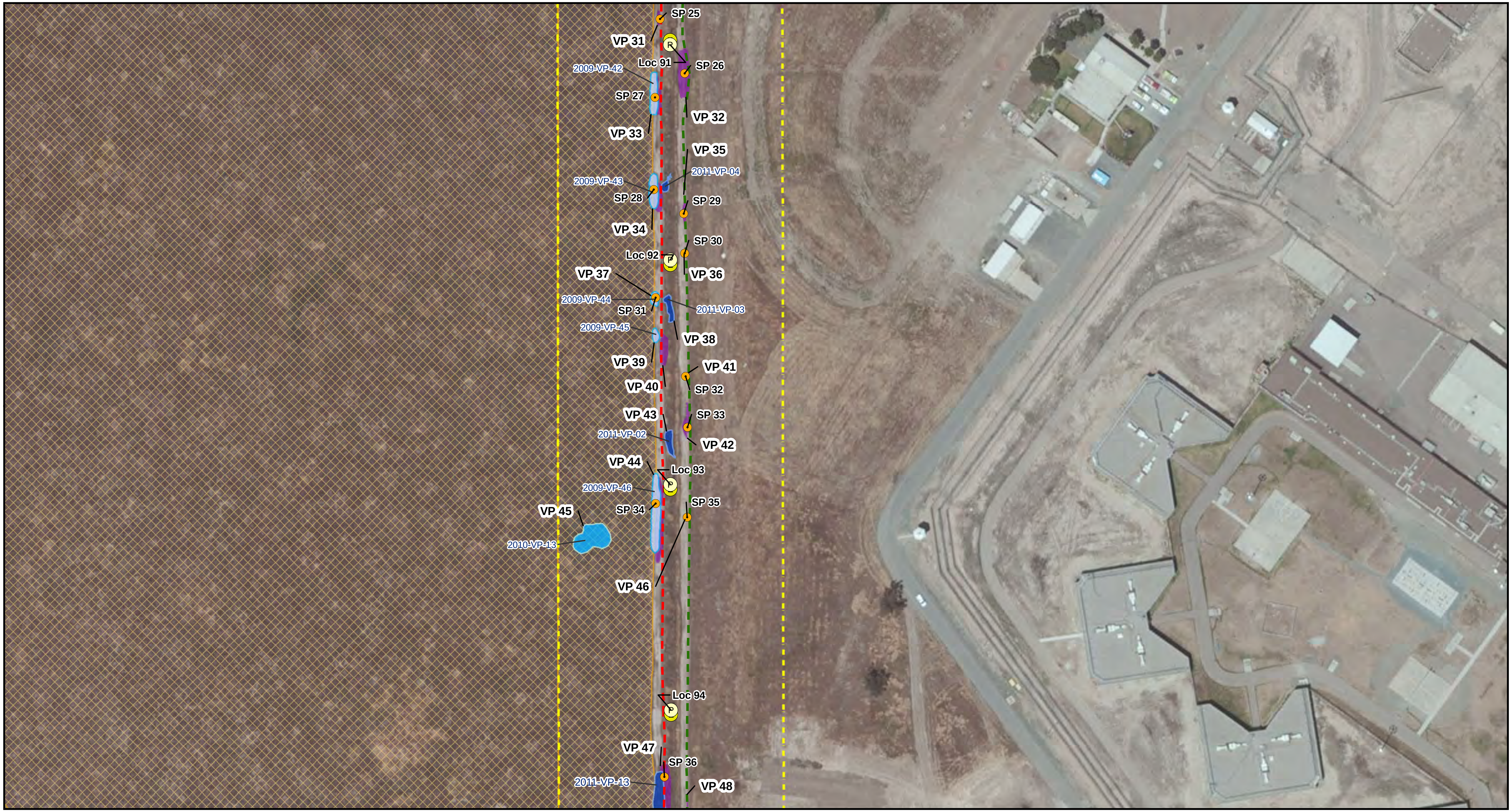

Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Survey Corridor
- ● Soil Pit
- Vernal Pool-2009, ACOE Wetland Waters, RWQCB Waters of the State
- Vernal Pool-2010, ACOE Wetland Waters, RWQCB Waters of the State
- Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State
- ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]

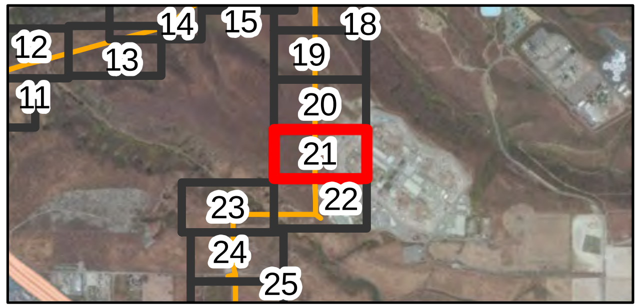

Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

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Print Date: 4/30/2015, Author: stondre

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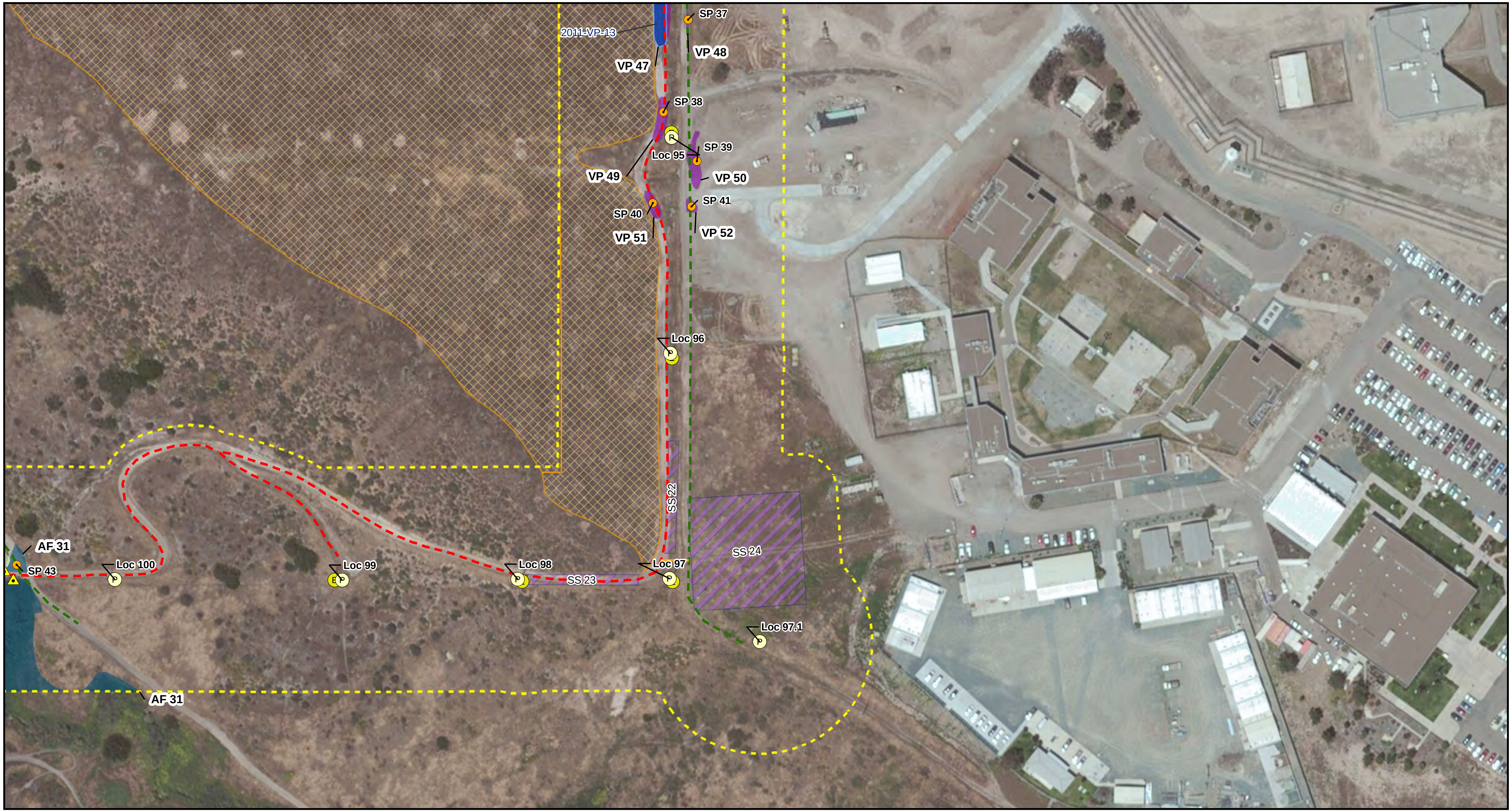
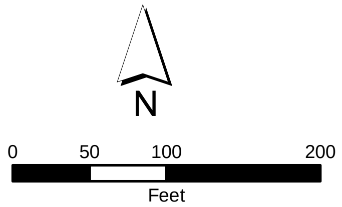


Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- Overland Travel
- ▨ String Site
- Survey Corridor
- ▲ Culvert
- ● Soil Pit
- 🟦 Vernal Pool-2011, ACOE Wetland Waters, RWQCB Waters of the State
- ▨ San Diego Mesa Claypan Vernal Pool Complex - ACOE Wetland Waters, RWQCB Waters of the State
- 🟦 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Disturbed Wetland]
- 🟩 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Riparian Scrub]
- 🟪 ACOE Wetland Waters, RWQCB Waters of the State [Vernal Pool]



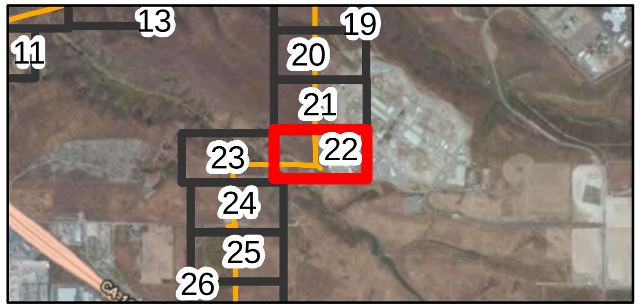


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

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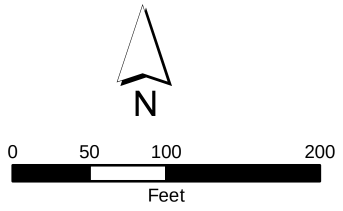
Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- Survey Corridor
- ▲ Culvert
- ⊙ Soil Pit
- 🟦 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Disturbed Wetland]
- 🟩 ACOE Wetland Waters, CDFW Riparian, RWQCB Waters of the State [Riparian Scrub]



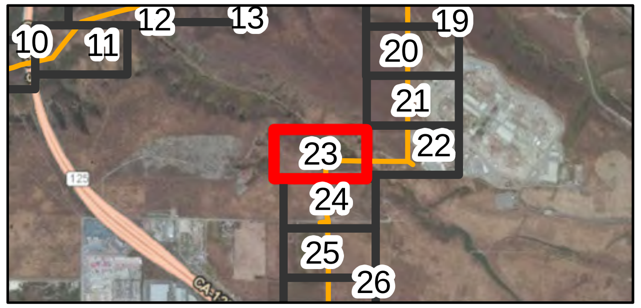


Figure 5
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TL-649 Wood-to-Steel Project

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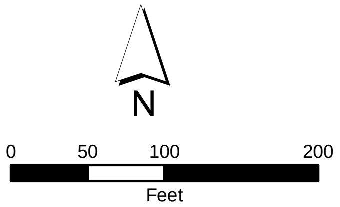
Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ╌ Existing Non-TCM Access Road
- ╌ Access Road
- ― Overland Travel
- ▨ String Site
- ⬚ Survey Corridor
- ■ Non-jurisdictional Swale



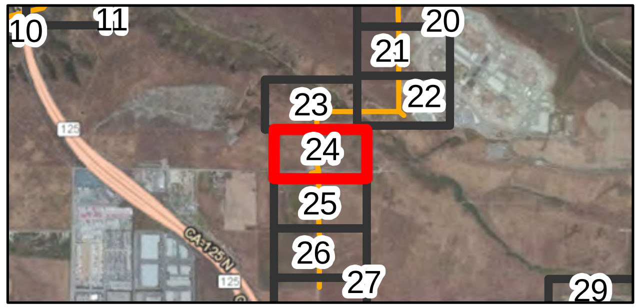


Figure 5

Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

Ⓟ Project Pole

Ⓔ Existing Pole

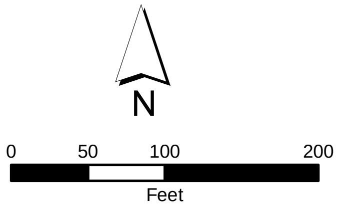
╌ Existing Non-TCM Access Road

╌ Access Road

▨ String Site

⬚ Survey Corridor

🟨 Non-jurisdictional Swale



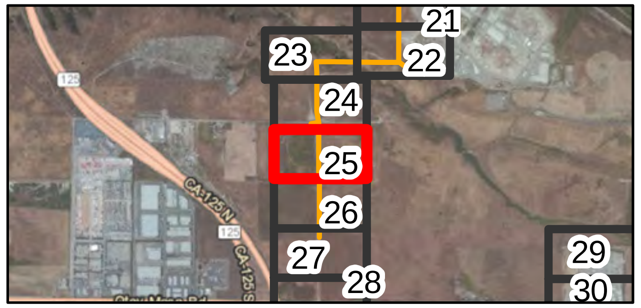


Figure 5

Jurisdictional Resources

TL-649 Wood-to-Steel Project

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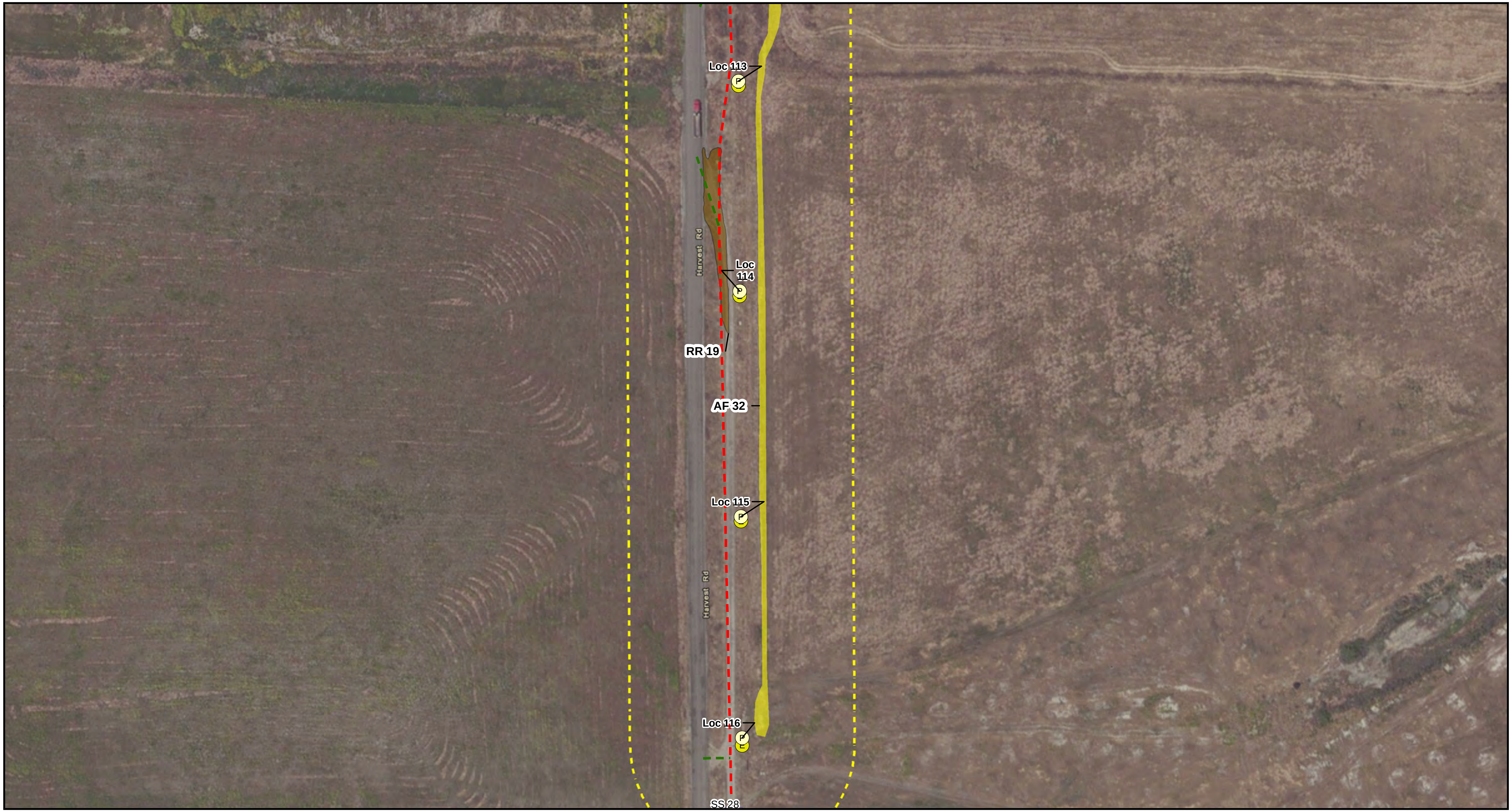
Print Date: 4/30/2015, Author: stondre



Legend

- Ⓟ Project Pole
- Ⓔ Existing Pole
- ‒ ‒ Existing Non-TCM Access Road
- ‒ ‒ Access Road
- ▨ String Site
- ⬚ Survey Corridor
- ■ Non-jurisdictional Road Rut [Bare Ground]
- ■ Non-jurisdictional Swale

N

0 50 100 200

Feet

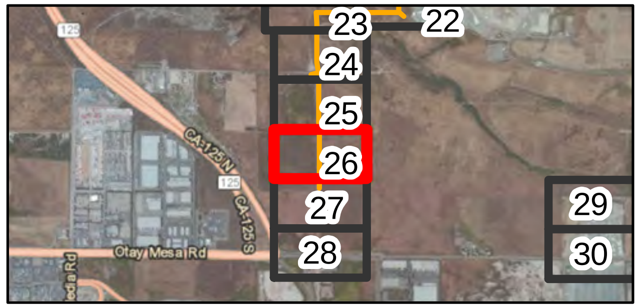


Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

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Legend

- Existing Non-TCM Access Road
- Access Road
- ▨ String Site
- Survey Corridor

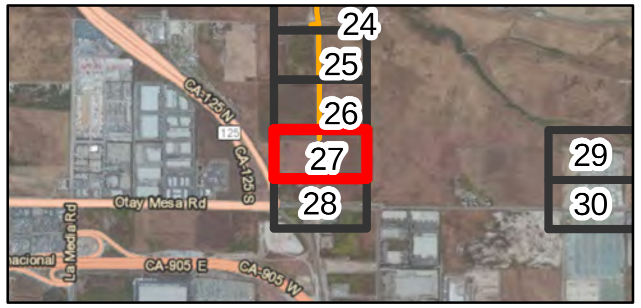

Figure 5
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TL-649 Wood-to-Steel Project

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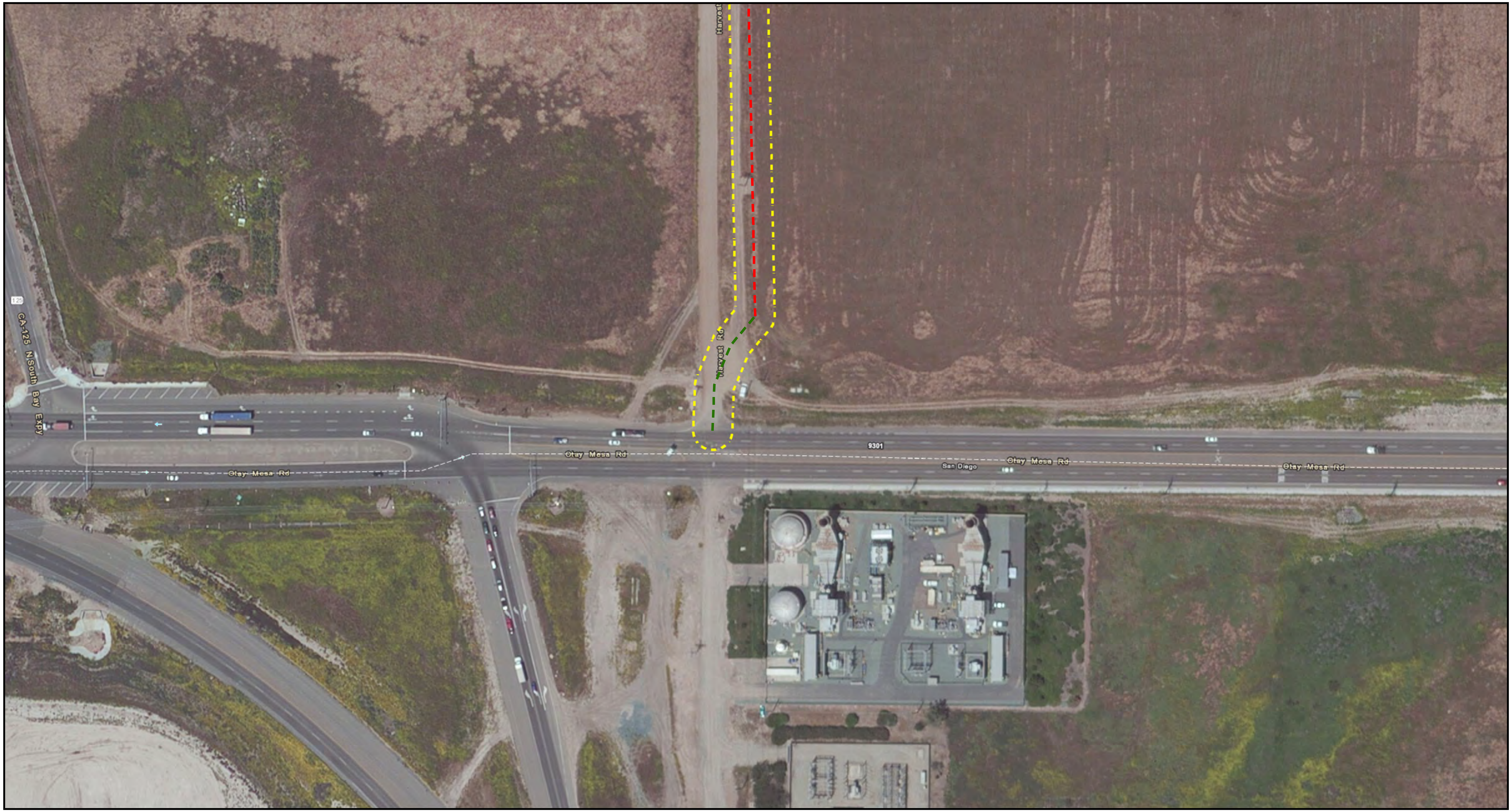

Legend

- 🟩 Existing Non-TCM Access Road
- 🟥 Access Road
- 🟨 Survey Corridor

N

0 50 100 200
Feet

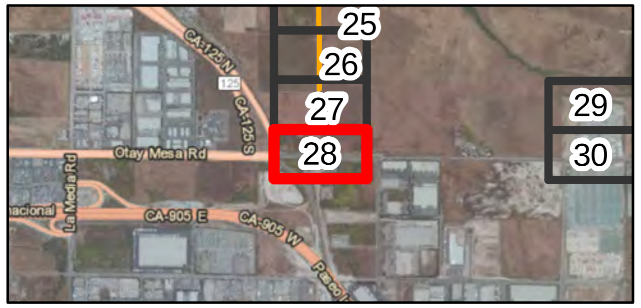

Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

Legend

▨ Staging Yard

⬚ Survey Corridor

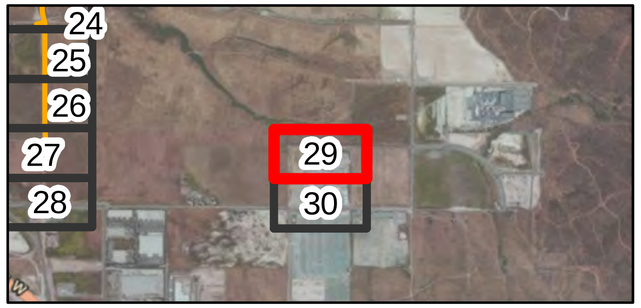

Figure 5

Jurisdictional Resources

TL-649 Wood-to-Steel Project

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Print Date: 4/30/2015, Author: stondre

Figure 5
Jurisdictional Resources
TL-649 Wood-to-Steel Project

Name: 20775 JD Fig5 JD Resources 2015.Mxd
Print Date: 4/30/2015, Author: stondre

ATTACHMENT 5: FIELD DATA FORMS

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WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL-649 Otay San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 1
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): C - Mediterranean California Lat: 32.58526 Long: -116.99113 Datum: NAD-83
Soil Map Unit Name: Diablo clay NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●	
Hydric Soil Present?	Yes ●	No ○	Is the Sampled Area
Wetland Hydrology Present?	Yes ●	No ○	within a Wetland? Yes ○ No ●

Remarks: Vegetation nonexistent within access road. Area sampled due to high potential for San Diego fairy shrimp. Road rut pool does not traverse a known vernal pool complex and no vernal pool indicator plant species observed to occur.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	0 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	(A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☒ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ●

Remarks: Sampling conducted within a road rut pool. Hydrophytic vegetation is not expected to occur in undisturbed conditions based on surrounding conditions.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

☒ Surface Water (A1)
☐ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☒ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☒ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Recent Iron Reduction in Plowed Soils (C6)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ●	No ○	Depth (inches): 6
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Road rut pool with surface water present at time of survey. Spadefoot toad tadpoles (B13) present.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL-649 Otay San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 2
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): C - Mediterranean California Lat: 32.19502 Long: -116.96015 Datum: NAD-83
Soil Map Unit Name: Diablo clay NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ○ No ●
Hydric Soil Present? Yes ● No ○
Wetland Hydrology Present? Yes ● No ○

Is the Sampled Area within a Wetland? **Yes** ○ **No** ●

Remarks: Sparse upland vegetation present within access road. Area sampled due to high potential for San Diego fairy shrimp. Road rut pool does not traverse a known vernal pool complex and no vernal pool indicator plant species observed to occur.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Schismus barbatus*	.5	Yes	UPL
2. *Hypochaeris glabra*	.25	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	0.75%		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 99.25% % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	0.75	x 5 =	3.75
Column Totals:	0.75	(A)	3.75 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☒ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ○ **No** ●

Remarks: Sampling conducted within a road rut pool. Hydrophytic vegetation is not expected to occur in undisturbed conditions based on surrounding conditions including habitat and topographic relief.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

☒ Surface Water (A1)
☐ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☒ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☒ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Recent Iron Reduction in Plowed Soils (C6)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ● No ○ Depth (inches): 7
Water Table Present? Yes ○ No ● Depth (inches):
Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches):

Wetland Hydrology Present? Yes ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Road rut pool with surface water present at time of survey. Spadefoot toad tadpoles (B13) present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 3
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Outer floodlplain terrace Local relief (concave, convex, none): Convex Slope (%): 0%
Subregion (LRR): LRR-C Lat: 32°35'31.14"N Long: 116°57'24.88"W Datum: NAD-83
Soil Map Unit Name: Diablo clay NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? No Are "Normal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present? Yes x No		
Wetland Hydrology Present? Yes x No		

Remarks: Sampling point located within emergent marsh.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Elymus triticoides*	90	Yes	FAC
2. *Rumex crispus*	2	No	FAC
3. *Bromus diandrus*	1	N0	UPL
4. *Bromus hordaceous*	1	No	FACU
5.			
6.			
7.			
8.			
	94%	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 6% % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
Prevalence Index is ≤3.0[1]
Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	5 YR 3/2	90	2.5 YR 4/6	10	C	PL	Silty clay loam	
7-18	5 YR 2.5/1	100	-	-	-	-	Clay loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes x No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
x Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches):
Water Table Present? Yes ___ No x Depth (inches):
Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches):

Wetland Hydrology Present? Yes x No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL-649 Otay San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 4
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): C - Mediterranean California Lat: 32.59168 Long: -116.95676 Datum: NAD-83
Soil Map Unit Name: Diablo clay NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●
Hydric Soil Present?	Yes ●	No ○
Wetland Hydrology Present?	Yes ●	No ○

Is the Sampled Area within a Wetland? **Yes** ○ **No** ●

Remarks: Sparse facultative vegetation present within access road, likely due to surface water accumulation within road rut. Area sampled due to high potential for San Diego fairy shrimp and nearby wet meadow. Road rut pool does not traverse a known vernal pool complex and no vernal pool indicator plant species observed to occur.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Distichilis spicata*	1	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	1 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 99 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	1	x 3 =	3
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	1 (A)		3 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☒ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ○ **No** ●

Remarks: Sampling conducted within a road rut pool. Hydrophytic vegetation is not expected to dominate area in undisturbed conditions due to local relief and surrounding upland grassland habitat.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

☐ Surface Water (A1)
☐ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☒ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Recent Iron Reduction in Plowed Soils (C6)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches):
Water Table Present? Yes ○ No ● Depth (inches):
Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches):

Wetland Hydrology Present? Yes ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Road rut pool with surface soil cracks present.

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 5
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'31.88"N Long: 116°57'18.75"W Datum: NAD-83
Soil Map Unit Name: Diablo clay NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No
Hydric Soil Present?	Yes x	No
Wetland Hydrology Present?	Yes x	No

Is the Sampled Area within a Wetland? **Yes** x **No** ____

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	1	N	FACW
2. *Festuca perennis*	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 6
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'42.62"N Long: 116°56'49.16"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** x
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No x

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 7

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'47.10"N Long: 116°56'43.18"W Datum: NAD-83

Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ______

Remarks: SNo soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _x_ Depth (inches): ______
Water Table Present? Yes _____ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes _____ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 8
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): Otay Valley Hydrologic Area Lat: 32°35'49.47"N Long: 116°56'39.63"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 9
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'48.12"N Long: 116°56'40.19"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Sampling point is located within emergent marsh.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Juncus effusus*	65	Yes	FACW
2. *Bromus madritensis*	2	No	UPL
3. *Bromus diandrus*	1	No	UPL
4.			
5.			
6.			
7.			
8.			
	68%	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 32% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks:

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0	5 YR 3/1	98	2.5 YR 4/8	2	C	PL	Silty clay loam	See remarks below

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
_x_ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes _x_ No ___

Remarks: Rocky substrate precludes digging. Redoximorphic concentrations observed on clay lining rocks and roots. Hydric soils assumed due to presence of redoximorphic features on soil surface, as well as strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
_x_ Oxidized Rhizospheres along Living Roots (C3)
_x_ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ___
Water Table Present? Yes ___ No _x_ Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ___

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 10
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'49.84"N Long: 116°56'23.42"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	2	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______________

Depth (inches): ______________

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
_x_ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 11
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'49.61"N Long: 116°56'23.30"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No ___	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ___
Hydric Soil Present?	Yes x	No ___		
Wetland Hydrology Present?	Yes x	No ___		

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No x Depth (inches):
Water Table Present? Yes _____ No x Depth (inches):
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches):

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland hydrology is present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 12
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'56.00"N Long: 116°56'11.41"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x	**No**
Hydric Soil Present?	Yes x	No			
Wetland Hydrology Present?	Yes x	No			

Remarks: Vegetation is mostly non-native due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Schismus barbatus*	2	Yes	UPL
2. *Psilocarphus brevissimus var. brevissimus*	1	Yes	FACW
3. *Erodium cicutarium*	1	Yes	FACU
4. *Deinandra fasciculata*	0.5	No	FACU
5.			
6.			
7.			
8.			
	10	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	2	x 5 =	10
Column Totals:	4 (A)		16 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 13
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'55.76"N Long: 116°56'4.94"W Datum: NAD-83
Soil Map Unit Name: Huerhuero loam, Riverwash NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x No		
Wetland Hydrology Present?	Yes x No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	1	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 99 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
_x_ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 14
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): Convex Slope (%): 2%
Subregion (LRR): LRR-C Lat: 32°35'55.43"N Long: 116°56'1.58"W Datum: NAD-83
Soil Map Unit Name: Riverwash NWI classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Sampling point within emergent marsh vegetation located within drainage.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ____)			
1. *Iva hayesiana*	70	Yes	FACW
2. *Foeniculum vulgare*	3	No	UPL
3. *Tamarix ramossisima*	2	No	FAC
4.			
5.			
= Total Cover	75		
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	2	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover	2		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 88% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks:

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1.5	4/3 7.5 YR	100	-	-	-	-	Silty clay loam	-
2-15	4/2 10 YR	97	5 YR 5/6	3	C	PL	Silty clay	Organic material present in layer

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
x Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
x Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
x Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 15
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec 13 & 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'48.60"N Long: 116°55'45.73"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Erodium botrys*	1	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 99 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals:	1 (A)		4 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed under normal circumstances.

SOIL

Sampling Point: 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes x No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___
Water Table Present? Yes ___ No x Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? Yes x No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 16

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec 13 & 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'48.51"N Long: 116°55'44.49"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation is mostly non-native due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Erodium botrys*	2	Yes	FACU
2. *Deinandra fasciculata*	3	Yes	FACU
3. *Centaurea melitensis*	1	No	UPL
4.			
5.			
6.			
7.			
8.			
	6	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 94 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	1	x 5 =	5
Column Totals:	6	(A)	25 (B)

Prevalence Index = B/A = 4.17

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches):
Water Table Present? Yes _____ No x Depth (inches):
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches):

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 17
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'29.19"N Long: 116°56'21.86"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Psilocarphus brevissimus var. brevissimus*	8	Yes	FACW
2. *Polypogon monspeliensis*	3	Yes	FACW
3. *Festuca perennis*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
	13	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 18
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'28.64"N Long: 116°56'21.94"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Herb Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Psilocarphus brevissimus var. brevissimus*	3	Yes	FACW
2. *Polypogon monspeliensis*	3	Yes	FACW
3. *Festuca perennis*	1	No	FAC
4.			
5.			
6.			
7.			
8.			
	7	= Total Cover	

Woody Vine Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 19
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'28.30"N Long: 116°56'21.89"W Datum: NAD-83
Soil Map Unit Name: SStockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation is lacking due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No x

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______________________

Depth (inches): ______________________

Hydric Soil Present? Yes _x_ No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _x_ Depth (inches): ____________
Water Table Present? Yes _____ No _x_ Depth (inches): ____________
Saturation Present? (includes capillary fringe) Yes _____ No _x_ Depth (inches): ____________

Wetland Hydrology Present? Yes _x_ No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 20
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): Convex Slope (%): 1-4%
Subregion (LRR): LRR-C Lat: 32°35'20.24"N Long: 116°56'15.43"W Datum: NAD-83
Soil Map Unit Name: Olivenhain cobbly loam NWI classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? No Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ___	**Is the Sampled Area within a Wetland?** **Yes** x **No** ___
Hydric Soil Present?	Yes x No ___	
Wetland Hydrology Present?	Yes x No ___	

Remarks: Sampling located in southern willow scrub vegetation within drainage.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. *Salix lasiolepis*	35%	Yes	FACW
2. *Salix goodingii*	25%	Yes	FACW
3.			
4.			
	60%	= Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. *Baccharis pilularis*	2%	Yes	UPL
2.			
3.			
4.			
5.			
	2%	= Total Cover	
Herb Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 98% % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	67%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks:

SOIL

Sampling Point: 20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rocky conglomerate

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: Rocky conglomerate precludes digging. Hydric soils assumed based on strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- x Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- x Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes x No ___ Depth (inches): 4

Water Table Present? Yes x No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes x No ___ Depth (inches): 0

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 21
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'19.47"N Long: 116°56'21.86"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Psilocarphus brevissimus var. brevissimus*	25	Y	FACW
2. *Festuca perennis*	5	N	FAC
3. *Polypogon monspeliensis*	7	N	FACW
4.			
5.			
6.			
7.			
8.			
	37	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 63 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______
Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 22

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'18.27"N Long: 116°56'21.86"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	x	No	
Hydric Soil Present?	Yes	x	No	
Wetland Hydrology Present?	Yes	x	No	

Is the Sampled Area within a Wetland? **Yes** x **No** ____

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Psilocarphus brevissimus var. brevissimus*	2	Y	FACW
2. *Festuca perennis*	3	Y	FAC
3. *Polypogon monspeliensis*	5	Y	FACW
4. *Atriplex semibaccata*	2	N	FAC
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- _x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- _x_ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______

Water Table Present? Yes ___ No _x_ Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 23
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'18.95"N Long: 116°56'21.85"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Psilocarphus brevissimus var. brevissimus*	3	Y	FACW
2. *Festuca perennis*	5	Y	FAC
3. *Polypogon monspeliensis*	5	Y	FACW
4. *Avena barbata*	1	N	UPL
5.			
6.			
7.			
8.			
	14	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 86 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes x No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
x Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___
Water Table Present? Yes ___ No x Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? Yes x No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 24
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'16.20"N Long: 116°56'21.52"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?** **Yes** x **No** ____
Hydric Soil Present?	Yes x No ____	
Wetland Hydrology Present?	Yes x No ____	

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	2	Y	FACW
2. *Festuca perennis*	1	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	3	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 97 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Hydrophytic vegetation is present.

SOIL

Sampling Point: 24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ________

Depth (inches): ________

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ________
Water Table Present? Yes ___ No _x_ Depth (inches): ________
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ________

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 25
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'13.55"N Long: 116°56'21.84"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes Yes No (If no, explain in Remarks.)
Are Vegetation x, Soil , or Hydrology significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	x	
Hydric Soil Present?	x	
Wetland Hydrology Present?	x	

Is the Sampled Area within a Wetland? **Yes** x **No**

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus var. brevissimus*	5	Y	FACW
2. *Festuca perennis*	5	Y	FAC
3. *Polypogon monspeliensis*	7	Y	FACW
4. *Atriplex semibaccata*	3	N	FAC
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): ______
Water Table Present? Yes ____ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ____ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 26

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): Otay Valley Hydrologic Area Lat: 32°35'12.91"N Long: 116°56'21.45"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	1	Y	FACW
2. *Festuca perennis*	1	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland hydrology is present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 27
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'12.42"N Long: 116°56'21.89"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus var. brevissimus*	12	Y	FACW
2. *Festuca perennis*	6	Y	FAC
3. *Polypogon monspeliensis*	12	Y	FACW
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches):
Water Table Present? Yes ___ No _x_ Depth (inches):
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches):

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 28
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'11.74"N Long: 116°56'21.93"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present? Yes x No ____		
Wetland Hydrology Present? Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Salsola tragus*	1	N	FACU
2. *Festuca perennis*	10	Y	FAC
3. *Polypogon monspeliensis*	20	Y	FACW
4.			
5.			
6.			
7.			
8.			
	31	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 69 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 29

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'11.05"N Long: 116°56'21.43"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)

Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Salsola tragus*	1	N	FACU
2. *Festuca perennis*	5	Y	FAC
3. *Polypogon monspeliensis*	7	Y	FACW
4.			
5.			
6.			
7.			
8.			
	13	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 87 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches):
Water Table Present? Yes _____ No x Depth (inches):
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches):

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 30
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'10.63"N Long: 116°56'21.48"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	2	Y	FACW
2. *Festuca perennis*	2	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	4	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 96 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 31

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'9.75"N Long: 116°56'21.86"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)

Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus var. brevissimus*	3	N	FACW
2. *Festuca perennis*	5	N	FAC
3. *Polypogon monspeliensis*	15	Y	FACW
4. *Atriplex semibaccata*	5	N	FAC
5.			
6.			
7.			
8.			
	28	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 72 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches):
Water Table Present? Yes ___ No _x_ Depth (inches):
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches):

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 32
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'8.95"N Long: 116°56'21.49"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation x, Soil , or Hydrology significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No
Are Vegetation , Soil , or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x No		
Wetland Hydrology Present?	Yes x No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	5	Yes	FACW
2. *Festuca perennis*	2	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	7	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
Prevalence Index is ≤3.0[1]
Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ________

Depth (inches): ________

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ________
Water Table Present? Yes ___ No _x_ Depth (inches): ________
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ________

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 33
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'8.33"N Long: 116°56'21.44"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x	**No**
Hydric Soil Present?	Yes x	No			
Wetland Hydrology Present?	Yes x	No			

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	7	Yes	FACW
2. *Festuca perennis*	2	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	9	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 92% % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 33

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 34
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'9.75"N Long: 116°56'21.86"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus var. brevissimus*	3	No	FACW
2. *Festuca perennis*	5	Yes	FAC
3. *Polypogon monspeliensis*	10	Yes	FACW
4. *Atriplex semibaccata*	5	Yes	FAC
5.			
6.			
7.			
8.			
	23	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 77 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 35
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'6.95"N Long: 116°56'21.40"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	6	Yes	FACW
2. *Festuca perennis*	2	Yes	FAC
3. *Salsola tragus*	1	No	FACU
4.			
5.			
6.			
7.			
8.			
	9	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 35

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): ______
Water Table Present? Yes _____ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 36

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'3.64"N Long: 116°56'21.84"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Festuca perennis*	5	Yes	FAC
2. *Polypogon monspeliensis*	5	Yes	FACW
3. *Spergularia sp.*	3	Yes	FACW
4. *Psilocarphus brevissimus var. brevissimus*	2	No	FACW
5.			
6.			
7.			
8.			
	15	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 37
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'3.63"N Long: 116°56'21.46"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x No ____		
Wetland Hydrology Present?	Yes x No ____		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	5	Yes	FACW
2. *Atriplex semibaccata*	3	Yes	FAC
3. *Avena barbata*	3	Yes	UPL
4.			
5.			
6.			
7.			
8.			
	11	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	67%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	4.5	x 2 =	9
FAC species	1	x 3 =	3
FACU species	2	x 4 =	8
UPL species	2.5	x 5 =	12.5
Column Totals:	9.5	(A)	32.5 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

x Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 38

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'2.18"N Long: 116°56'21.90"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present? Yes x No ____		
Wetland Hydrology Present? Yes x No ____		

Remarks: Vegetation is mostly non-native due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: ____)			
1. *Polypogon monspeliensis*	4	Yes	FACW
2. *Sonchus oleraceous*	2	Yes	UPL
3. *Erodium cicutarium*	2	Yes	FACU
4. *Festuca perennis*	1	No	FAC
5. *Psilocarphus brevissimus var. brevissimus*	0.5	No	FACW
6. *Chamaesyce sp.*	0.5	No	UPL
7.			
8.			
= Total Cover	10		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	4.5	x 2 =	9
FAC species	1	x 3 =	3
FACU species	2	x 4 =	8
UPL species	2.5	x 5 =	12.5
Column Totals:	9.5	(A)	32.5 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 38

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______________

Depth (inches): ______________

Hydric Soil Present? Yes _x_ No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _x_ Depth (inches): ______________
Water Table Present? Yes _____ No _x_ Depth (inches): ______________
Saturation Present? (includes capillary fringe) Yes _____ No _x_ Depth (inches): ______________

Wetland Hydrology Present? Yes _x_ No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 39
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'1.06"N Long: 116°56'21.44"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology ____ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No ____	**Is the Sampled Area within a Wetland?**	**Yes** x **No** ____
Hydric Soil Present?	Yes x	No ____		
Wetland Hydrology Present?	Yes x	No ____		

Remarks: Vegetation is mostly non-native due to disturbance from access road. Hydrophytic vegetation assumed due to prevalence of hydrophytic vegetation in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Spergularia sp.*	5	Yes	FACW
2. *Sonchus oleraceous*	3	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	8	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	3	x 5 =	15
Column Totals:	8 (A)		25 (B)

Prevalence Index = B/A = 3.125

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed under normal circumstances.

SOIL

Sampling Point: 39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes _x_ No ___

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
_x_ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No _x_ Depth (inches): ______
Water Table Present? Yes ___ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ___ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 40

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0

Subregion (LRR): LRR-C Lat: 32°35'0.63"N Long: 116°56'22.05"W Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)

Are Vegetation x, Soil ___, or Hydrology ___ significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Vegetation significantly disturbed from access road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size:)			
1. *Psilocarphus brevissimus var. brevissimus*	3	Yes	FACW
2. *Polypogon monspeliensis*	2	Yes	FACW
3. *Erodium botrys*	1	No	FACU
4. *Sonchus oleraceous*	0.5	No	UPL
5.			
6.			
7.			
8.			
	6.5	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum ___ % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100%	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: Sampling was conducted in a vernal pool within an access road.

SOIL

Sampling Point: 40

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
x Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
x Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ______ No x Depth (inches): ______
Water Table Present? Yes ______ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes ______ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 41
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Mesa Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR): LRR-C Lat: 32°35'18.95"N Long: 116°56'21.86"W Datum: NAD-83
Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation x, Soil ____, or Hydrology x significantly disturbed? Yes Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ____	**Is the Sampled Area within a Wetland?**	**Yes** x	**No** ____
Hydric Soil Present?	Yes x No ____			
Wetland Hydrology Present?	Yes x No ____			

Remarks: Vegetation and hydrology altered due to disturbance from access road. Hydrophytic vegetation and hydrology assumed due to prevalence of hydrophytic vegetation and hydrology indicators in nearby undisturbed vernal pools.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Sonchus oleraceus*	9	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	9	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 91% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	9	x 5 =	45
Column Totals:	9	(A)	45 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
x Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks: Sampling was conducted in a vernal pool within an access road. Hydrophytic vegetation assumed based on nearby undisturbed vernal pools.

SOIL

Sampling Point: 41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
_x_ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes _x_ No ______

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils were assumed due to strong hydrology and hydrophytic indicators in nearby vernal pools.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _x_ Depth (inches): ______
Water Table Present? Yes _____ No _x_ Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes _____ No _x_ Depth (inches): ______

Wetland Hydrology Present? Yes _x_ No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil surface is disturbed from access road. Hydrology assumed due to basin topography suitable for ponding and strong hydrology indicators (surface soil cracks) in nearby vernal pools

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014
Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 42
Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 25, Otay Mesa quadrangle
Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): Convex Slope (%): 1-3
Subregion (LRR): LRR-C Lat: 32°34'56.01"N Long: 116°56'32.61"W Datum: NAD-83
Soil Map Unit Name: Linne clay loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No	**Is the Sampled Area within a Wetland?**	**Yes** x **No**
Hydric Soil Present?	Yes x	No		
Wetland Hydrology Present?	Yes x	No		

Remarks: Sampling point within emergent marsh vegetation located within drainage.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Juncus acutus*	20	Yes	FACW
2. *Baccharis salicifolia*	15	Yes	FAC
3. *Iva hayesiana*	12	Yes	FACW
4. *Tamarix ramossisima*	2	No	FAC
5.			
	49	= Total Cover	
Herb Stratum (Plot size:)			
1. *Polypogon monspeliensis*	0.5	Yes	FACW
2. *Heliotropum curassavicum*	2	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	2.5	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 87.5% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	80%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No ____

Remarks:

SOIL

Sampling Point: 42

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rocky conglomerate
Depth (inches): ______

Hydric Soil Present? Yes x No ______

Remarks: Rocky conglomerate precludes digging. Hydric soils assumed based on strong hrophytic vegetation and hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
x Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
x Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): ______
Water Table Present? Yes _____ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): ______

Wetland Hydrology Present? Yes x No ______

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TL-649 Otay-San Ysidro Border Wood to Steel City/County: Chula Vista/San Diego Sampling Date: 05/22/2014

Applicant/Owner: San Diego Gas & Electric State: CA Sampling Point: 43

Investigator(s): Michael Nieto, Cailin O'Meara Section, Township, Range: T18S, R01W, Sec. 25, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slope Slope (%): 5

Subregion (LRR): LRR-C Lat: 32°34'55.51"N Long: 116°56'32.79"W Datum: NAD-83

Soil Map Unit Name: Linne clay loam NWI classification: Not applicable

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? No Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No x	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** x
Hydric Soil Present?	Yes ____	No x		
Wetland Hydrology Present?	Yes ____	No x		

Remarks: Sampling point located on upland slope adjacent to drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Bromus diandrus*	65	Yes	UPL
2. *Hirschfeldia incana*	2	No	UPL
3. *Avena barbata*	15	No	UPL
4.			
5.			
6.			
7.			
8.			
	85%	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 15% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0%	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	85 (A)		425 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No x

Remarks: Sampling point within non-native grassland.

SOIL

Sampling Point: 43

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 4/3	100	-	-	-	-	Sandy loam	-

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ______ No x

Remarks: No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): ______
Water Table Present? Yes _____ No x Depth (inches): ______
Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): ______

Wetland Hydrology Present? Yes ______ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL 649 Otay/San Ysidro Border. WRS City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: SDG&E State: CA Sampling Point: 44
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C - Mediterranean California Lat: 32.59706 Long: -116.94486 Datum: NAD-83
Soil Map Unit Name: Olvenhain Cobbly Loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ●	No ○	
Hydric Soil Present?	Yes ●	No ○	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ●	No ○	**within a Wetland?** **Yes** ● **No** ○

Remarks: Disturbed vernal pool within access road

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Psilocarphus tenellus*	1	No	OBL
2. *Lythrum hyssopifolia*	2	Yes	OBL
3. *Juncus effusus*	4	Yes	FACW
4.			
5.			
6.			
7.			
8.			
Total Cover:	7 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 93 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	3	x 1 =	3	
FACW species	4	x 2 =	8	
FAC species		x 3 =	0	
FACU species		x 4 =	0	
UPL species		x 5 =	0	
Column Totals:	7	(A)	11	(B)

Prevalence Index = B/A = 1.57

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ● **No** ○

Remarks: Vernal pool within access road, vegetation disturbed, assumed based on presence of vegetation and adjacent vernal pools.

SOIL

Sampling Point: 44

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed due to strong hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ● No ○ Depth (inches): 3

Water Table Present? Yes ○ No ● Depth (inches):

Saturation Present? (includes capillary fringe) Yes ● No ○ Depth (inches):

Wetland Hydrology Present? **Yes** ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: strong hydrological indicators.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL 649 Otay/San Ysidro Border. WRS City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: SDG&E State: CA Sampling Point: 45
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C - Mediterranean California Lat: 32.59687 Long: -116.94510 Datum: NAD-83
Soil Map Unit Name: Olvenhain Cobbly Loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ●	No ○	**Is the Sampled Area within a Wetland?** **Yes** ● **No** ○
Hydric Soil Present?	Yes ●	No ○	
Wetland Hydrology Present?	Yes ●	No ○	

Remarks: Disturbed vernal pool within access road

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	o	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Triglochin scilloides*	5	Yes	OBL
2. *Lythrum hyssopifolia*	1	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	6 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 93 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	6 (A)		6 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ● **No** ○

Remarks: Vernal pool within access road, vegetation disturbed, assumed based on presence of vegetation and adjacent vernal pools.

SOIL

Sampling Point: 45

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ● **No** ○

Remarks: hydric soils assumed based on ponded surface water, soil pit not dug due to presence of fairy shrimp.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

☒ Surface Water (A1)
☐ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☒ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☒ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Recent Iron Reduction in Plowed Soils (C6)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ● No ○ Depth (inches):
Water Table Present? Yes ● No ○ Depth (inches):
Saturation Present? (includes capillary fringe) Yes ● No ○ Depth (inches):

Wetland Hydrology Present? Yes ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: strong hydrological indicators.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL 649 Otay/San Ysidro Border. WRS　City/County: Chula Vista/San Diego　Sampling Date: 03/20/2015
Applicant/Owner: SDG&E　State: CA　Sampling Point: 46
Investigator(s): Ian Maunsell, Christina Congedo　Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): hillslope　Local relief (concave, convex, none): concave　Slope (%): 5
Subregion (LRR): C - Mediterranean California　Lat: 32.59762　Long: -116.94380　Datum: NAD-83
Soil Map Unit Name: Olvenhain Cobbly Loam　NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●
Hydric Soil Present?	Yes ●	No ○
Wetland Hydrology Present?	Yes ●	No ○

Is the Sampled Area within a Wetland? **Yes** ○ **No** ●

Remarks: Road rut exhibiting occasional hydrophytic vegetation on. Road berm shows evidence of erosion due to water carried along road and lack or ponding.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	o	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Logfia filaginoides*	5	Yes	Not Listed
2. *Psilocarphus tenellus*	2	No	OBL
3. *Plagiobothrys acanthocarpus*	1	No	OBL
4.			
5.			
6.			
7.			
8.			
Total Cover:	8 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 93 %　% Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	8 (A)		28 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ○ **No** ●

Remarks: Disturbed vegetation within road and along road shoulder. Occasional hydrophytic vegetation occurring in moist road ruts and is non-dominant. Non-dominant and not expected to be prevalent in undisturbed conditions. P. tenellus occur adjacent to road on slope and is non-dominant in undisturbed areas. Natural landform of site occurs on the semi-terraced hillslope of the Otay river. Vernal pools not expected to form under undisturbed conditions.

SOIL

Sampling Point: 46

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☒ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Thin Muck Surface (C7)
☐ Recent Iron Reduction in Plowed Soils (C6)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ● Depth (inches):
Water Table Present? Yes ○ No ● Depth (inches):
Saturation Present? (includes capillary fringe) Yes ○ No ● Depth (inches):

Wetland Hydrology Present? **Yes** ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil surface cracks present, however hydrology is expected to occur as a result of erosion from stormwater carried along roadside berm.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL 649 Otay/San Ysidro Border. WRS City/County: Chula Vista/San Diego Sampling Date: 03/20/2015
Applicant/Owner: SDG&E State: CA Sampling Point: 47
Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: Otay Mesa quad, Otay (Estudillo) land grant
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR): C - Mediterranean California Lat: 32.59808 Long: -116.94374 Datum: NAD-83
Soil Map Unit Name: Olvenhain Cobbly Loam NWI classification: Palustrine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ●	
Hydric Soil Present?	Yes ●	No ○	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ●	No ○	**within a Wetland?** **Yes** ● **No** ○

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Psilocarphus tenellus*	10	No	OBL
2. *Logfia filaginoides*	30	Yes	Not Listed
3. *Brassica nigra*	20	Yes	Not Listed
4. *Hypochaeris glabra*	17	Yes	Not Listed
5. *Schismus barbatus*	5	No	Not Listed
6. *Erodium botrys*	5	No	FACU
7.			
8.			
Total Cover:	87 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 93 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:			Multiply by:	
OBL species	10	x 1 =	10	
FACW species		x 2 =	0	
FAC species		x 3 =	0	
FACU species	5	x 4 =	20	
UPL species	72	x 5 =	360	
Column Totals:	87	(A)	390	(B)

Prevalence Index = B/A = 4.48

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ○ **No** ●

Remarks: Disturbed vegetation on road berm and within road rut.

SOIL

Sampling Point: 47

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ● No ○ Depth (inches):

Water Table Present? Yes ● No ○ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ● No ○ Depth (inches):

Wetland Hydrology Present? **Yes** ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Thin soil cracks and evidence of sheet water flow alongside of road due to berm (water concentration).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: TL 649 Otay/San Ysidro Border. WRS City/County: Chula Vista/San Diego Sampling Date: 03/20/2015

Applicant/Owner: SDG&E State: CA Sampling Point: 48

Investigator(s): Ian Maunsell, Christina Congedo Section, Township, Range: T18S, R01W, Sec. 24, Otay Mesa quadrangle

Landform (hillslope, terrace, etc.): mesa Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32.59121 Long: -116.93942 Datum: NAD-83

Soil Map Unit Name: Stockpen gravelly clay loam NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.)

Are Vegetation ☒ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ●	No ○
Hydric Soil Present?	Yes ●	No ○
Wetland Hydrology Present?	Yes ●	No ○

Is the Sampled Area within a Wetland? **Yes** ● **No** ○

Remarks: Vegetation disturbed due to location with access road. Data point immediately adjacent to natural claypan vernal pool habitat to the west.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*	0	No	
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1. *None*	0	No	
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. *Psilocarphus tenellus*	1	No	OBL
2. *Erodium botrys*	5	Yes	FACU
3. *Elymus triticoides*	10	Yes	FAC
4. *Lepidium nitidum*	2	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	18 %		
Woody Vine Stratum			
1. *None*	0	No	
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 93 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species		x 2 =	0
FAC species	12	x 3 =	36
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	18 (A)		57 (B)

Prevalence Index = B/A = 3.17

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes** ● **No** ○

Remarks: Disturbed vernal pool occurring within access road. Vegetation assumed due to adjacent undisturbed vernal pools and strong hydrological indicators.

SOIL

Sampling Point: 48

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type^1	Loc^2	Texture	Remarks

^{1}Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ^{2}Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☒ Vernal Pools (F9)

Indicators for Problematic Hydric Soils^3**:**

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

^{3}Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ● **No** ○

Remarks: No soil pit was dug due to the documented presence of San Diego fairy shrimp. Hydric soils assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ● **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soil cracks and water marks present.