

# Attachment G

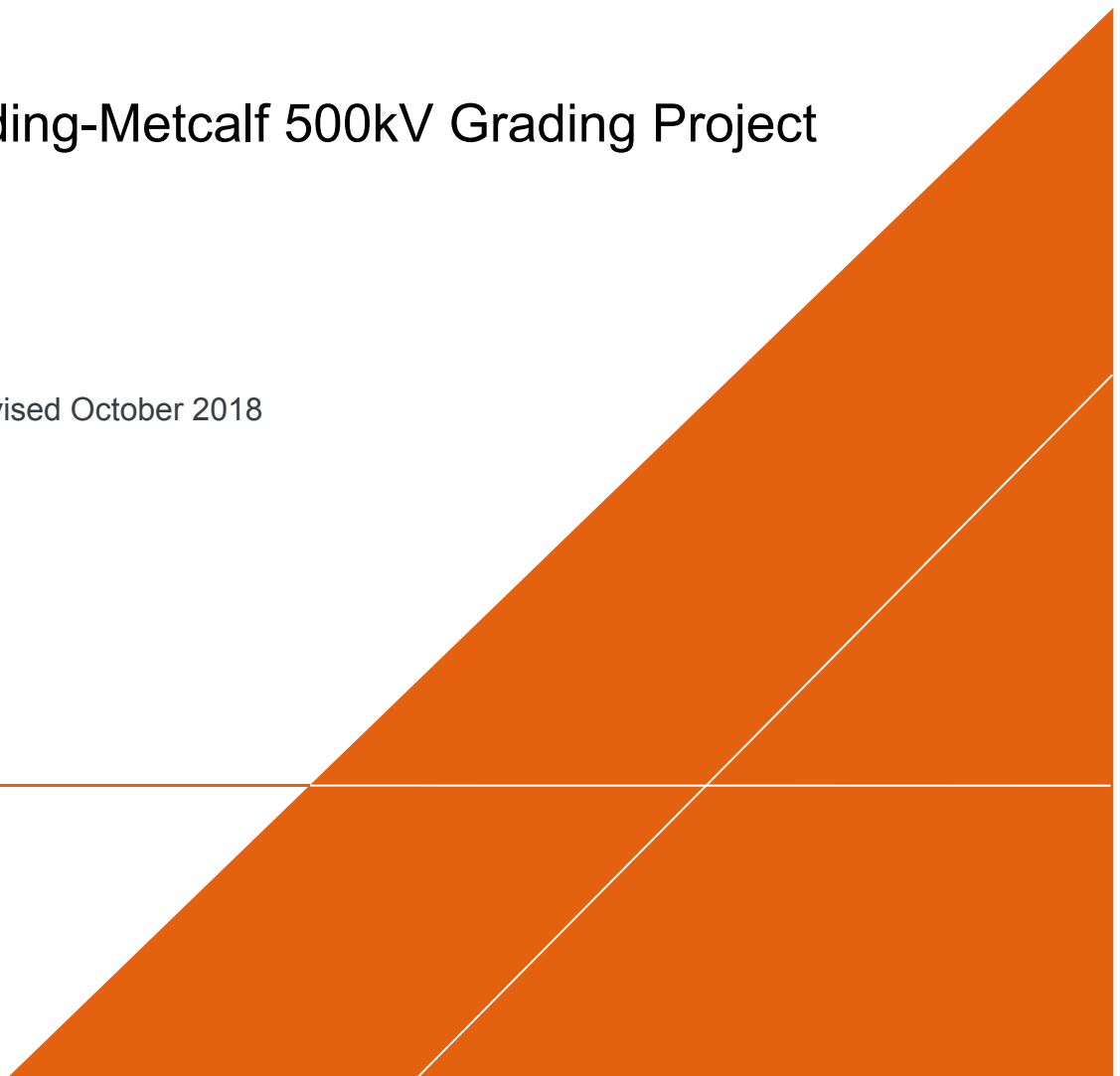
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Pacific Gas and Electric Company

# **BIOLOGICAL ASSESSMENT**

Moss Landing-Metcalf 500kV Grading Project

August 2016, Revised October 2018



## BIOLOGICAL ASSESSMENT

Moss Landing-Metcalf 500kV Grading  
Project



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Date:

August 2016, Revised October 2018

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## ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
LOD	Limits of Disturbance
MBTA	Migratory Bird Treaty Act
PG&E	Pacific Gas and Electric Company
USFWS	United States Fish & Wildlife Service

## EXECUTIVE SUMMARY

A discrepancy exists beneath the easternmost phase of the Metcalf-Moss Landing 500kV Circuit near Tower 004/024. To resolve the discrepancy, Pacific Gas and Electric Company (PG&E) plans to grade the top of a terrace located beneath the conductor. This Biological Assessment and the associated field surveys were prepared for the proposed grading in Monterey County, California. The field reconnaissance survey was conducted on April 18, 2016 after conducting a desktop review. Three special-status plant species were observed within the limits of disturbance (LOD) for the grading activities: Hooker's manzanita (*Arctostaphylos hookeri*), Pajaro manzanita (*Arctostaphylos pajaroensis*), and Eastwood's goldenbush (*Ericameria fasciculata*). This Biological Assessment provides proposed measures to minimize impacts and to reduce or eliminate introduction of invasive species.

A follow up site visit to the Moss Landing-Metcalf 500kV Grading Project Location was conducted by an Arcadis Biologist/Botanist on February 13, 2018. The purpose of this site visit was to confirm conditions are the same as those reported in this Biological Assessment dated August 2016 and to document any changes to the habitat quality and vegetation present.

A thorough review of the site confirmed there were no noticeable changes in the vegetation since the previous survey conducted in 2016. The same number and species of special status shrubs were present in the LOD. Additionally, it was noted that there were no trees greater than six inches diameter at breast height within the limits of disturbance.

## 1 INTRODUCTION

This Biological Assessment and the associated field reconnaissance survey was prepared to support the proposed grading activity associated with the Metcalf-Moss Landing 500kV Circuit between Towers 004/024 and 004/025 in Monterey County, California (Figure 1). This report describes the existing conditions at the site, field survey methods, findings, and recommended mitigation measures.

## 2 EXISTING CONDITIONS

The proposed grading area is located approximately 100 feet to the northeast of tower 004/024 on the Moss Landing-Metcalf circuit between towers 004/024 and 004/025 (the Site). The Site is 425 feet above mean sea level and sits at the top of a northeast-southwest trending ridge. The Site and associated towers are accessed by dirt roads to the immediate northwest, west, and southwest.

The habitat surrounding the Site is comprised primarily of coast live oak woodland, dominated by coast live oak (*Quercus agrifolia*), with associated stands of central maritime chaparral on south-facing slopes and ridgetops. The LOD area supports central maritime chaparral vegetation along with one coast live oak tree; this vegetation is described further in Section 6. To the northeast is a stand of large Eucalyptus trees (100+ feet tall). Weeds grow abundantly along the access roads and within vegetated areas; the most noxious non-native species include Eucalyptus (*Eucalyptus* sp.; including seedlings), pampas grass (*Cortaderia* sp.), and French broom (*Genista monspessulana*).

The proposed grading area totals 895 square feet. The entire LOD includes grading and erosion control areas, as well as staging and stockpile areas, and covers 5,164 square feet (Figures 2 and 3); the LOD area is dominated primarily by central maritime chaparral vegetation.

## 3 APPLICABLE REGULATIONS

No state or federally-listed species have the potential to occur within the Site. Therefore provisions listed under the Federal Endangered Species Act and California Endangered Species Act are not applicable.

The oak woodland and eucalyptus stand surrounding the Site provide suitable nesting habitat for raptors and other birds protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. The MBTA of 1918 prohibits the harassing, possessing, killing, or trading of migratory birds. Most actions that result in the taking or permanent or temporary possession of protected species violates the MBTA. Raptors and their nests are protected under both the MBTA and Fish and Game Code Section 3503 which prohibits the killing, possession, or destruction of bird eggs or bird nests. Sections 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds (including passerines).

## 4 METHODS

A desktop review was conducted in preparation for the field reconnaissance survey. This included a review of findings from prior field surveys conducted at this location (AECOM 2012 and Arcadis 2015), a search of the California Natural Diversity Database (CNDDDB) within 5 miles of the Site, and a Google Earth review of the topography and vegetation canopy. A list of all special-status species with CNDDDB



records occurring within the 5-mile radius of the Site and their potential to occur within the Site are presented in the table below.

**Table 1: Special-Status Species within a 5-mile Radius**

Species	Status Federal/State/Other	Habitat	Likelihood of Occurrence
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	--/--/1B.2	Chaparral, coastal scrub, closed-cone coniferous forest, cismontane woodland. Sandy soils. Blooming period January-June.	<b>Present.</b> 6 plants are present within the Limits of Disturbance in chaparral habitat.
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	--/--/1B.1	Chaparral, sandy soils. Blooming period December-March.	<b>Present.</b> Approximately 45 plants are present within the Limits of Disturbance in chaparral habitat.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	--/--/1B.1	Valley and foothill grasslands. Blooming period May-October.	<b>Low.</b> Suitable grassland habitat is not present within the Limits of Disturbance.
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	FT/--/1B.2	Sandy soils in coastal dunes or more inland within chaparral or other habitats. Blooming period April-June.	<b>Absent.</b> While suitable sandy soils and chaparral habitat is present, this species has not been identified within the Limits of Disturbance during surveys conducted in 2012 and 2015.
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's beak	--/SE/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes. Blooming period April-October.	<b>Absent.</b> While suitable chaparral habitat is present, no recent CNDDDB records occur within a 5-mile radius and no individuals were observed during surveys conducted in 2012 and 2015.
<i>Ericameria fasciculata</i> Eastwood's goldenbush	--/--/1B.1	Sandy openings in chaparral (maritime), coastal scrub, coastal dunes. Blooming period July-October.	<b>Present.</b> 21 plants are present within the Limits of Disturbance in chaparral habitat.

<i>Piperia yadonii</i> Yadon's rein orchid	FE/--/1B.1	On sandstone or sandy soils within chaparral, coastal bluff scrub	<b>Absent.</b> While suitable sandy soils and chaparral habitat is present, this species has not been identified within the Limits of Disturbance during surveys conducted in 2012 and 2015.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	FT/--/1B.2	Chaparral, coastal scrub, wetland-riparian. Blooming period March-June	<b>Absent.</b> Typical habitat for this species in the vicinity includes mesic areas which are not present within the Limits of Disturbance, and this species has not been identified during surveys conducted in 2012 and 2015.
<i>Trifolium hydrophilum</i> saline clover	--/--/1B.2	Marshes, swamps, valley and foothill grasslands, vernal pools. Blooming period April-June	<b>Absent.</b> No suitable habitat is present
<i>Ambystoma californiense</i> California tiger salamander	FT/ST	Need underground refuges, especially ground squirrel burrows, & vernal pools or other seasonal water sources for breeding	<b>Low.</b> No suitable perennial or seasonal water source for breeding is present within the vicinity of the Limits of Disturbance. No upland refugia habitat is present.
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	FE/FP	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties.	<b>Absent.</b> No suitable habitat is present
<i>Charadrius nivosus nivosus</i> western snowy plover	FT/SSC	Sandy beaches, salt pond levees & shores of large alkali lakes.	<b>Absent.</b> No suitable habitat is present
<i>Elanus leucurus</i> white-tailed kite	--/FP/BLM-S	Coastal or valley areas with abundant prey base (typically rodents). Nests in a variety of trees or tall shrubs. Habitats may include grasslands, agricultural areas, and wetlands	<b>Low.</b> Marginal nesting and foraging habitat is present within the vicinity of the Limits of Disturbance.

		including freshwater and salt marshes.	
<i>Rallus longirostris obsoletus</i> Ridgway's (=California clapper) rail	FE/SE, FP	Salt and/or brackish marshes.	<b>Absent.</b> No suitable habitat is present
<i>Riparia riparia</i> bank swallow	--/ST	Colonial nester; nests primarily in riparian and other lowland habitats	<b>Absent.</b> No suitable habitat is present
<i>Vireo bellii pusillus</i> least Bell's vireo	FE/SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	<b>Absent.</b> No suitable habitat is present
<i>Eucyclogobius newberryi</i> tidewater goby	FE/SSC	Brackish water habitats	<b>Absent.</b> No suitable habitat is present
<i>Rana draytonii</i> California red- legged frog	FT/SSC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	<b>Absent.</b> No suitable habitat is present
<i>Spirinchus thaleichthys</i> longfin smelt	FC/SE	Found in open waters of estuaries, mostly in middle or bottom of water column.	<b>Absent.</b> No suitable habitat is present

Data sources: California Department of Fish and Wildlife (CDFW 2016), California Native Plant Society (CNPS 2016).

Species Status Codes:

Federal:

FC – Candidate  
FD – Delisted  
FE – Endangered  
FT – Threatened

State:

FP – Fully Protected  
SE – Endangered  
ST – Threatened  
SSC – Species of Special Concern

Other (CNPS):

1B.1 – Seriously Threatened in California; Rare, Threatened, Endangered in California and Elsewhere (CNPS)  
1B.2 – Moderately Threatened in California; Rare, Threatened, Endangered in California and Elsewhere (CNPS)

The review of past surveys indicated the presence of Hooker’s manzanita, Pajaro manzanita, and Eastwood’s goldenbush observed on July 26, 2012 and June 3, 2015.

Prior to the field reconnaissance survey, reference monitoring was conducted at the former Fort Ord (approximately 14 miles south) on April 14, 2016 in which Monterey spineflower (*Chorizanthe pungens* var. *pungens*) was observed flowering. In addition, seaside birds-beak (*Cordylanthus rigidus* ssp. *littoralis*) was identifiable and *Piperia* species were observable at reference sites.

Span 004/024 to 004/025 is accessed from 67 Tucker Road, Prunedale, California. The field reconnaissance survey conducted on April 18, 2016, involved walking throughout the Site, the access roads, and surrounding habitat to visually identify, quantify, and record polygons of special-status species present as well as document existing conditions and habitat types. The Site was visited at the peak of the spring flowering season when plant identification is optimal.

## 5 SPECIAL-STATUS PLANT FINDINGS

A survey for special-status plant species was conducted on April 18, 2016. Hooker’s manzanita, Pajaro manzanita, and Eastwood’s goldenbush were observed (Figure 3; Table 2). There were other special-status species that were recorded in the CNDDDB search within five miles (Figure 2) of the Site but were not observed at or near the proposed excavation area are. Plants identified in CNDDDB that have suitable habitat within the Site but are not present include Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and Yadon’s rein orchid (*Piperia yadonii*).

Hooker’s Manzanita has a CNPS Rare Plant Threat Rank of 1B.2, a plant of limited distribution that is fairly endangered in California (CNPS 2016). Hooker’s manzanita was observed growing in the south corner of the LOD. No plants were observed in the grading area and six plants were counted in the LOD.

Pajaro Manzanita has a CNPS Rare Plant Threat Rank of 1B.1, a plant of limited distribution that is seriously endangered in California (CNPS 2016). Pajaro manzanita was observed growing throughout the LOD (Figure 3) and surrounding areas. A total of seven plants were counted within the grading area and 45 plants were counted in the LOD.

Eastwood’s goldenbush has a CNPS Rare Plant Threat Rank of 1B.1, a plant of limited distribution that is seriously endangered in California (CNPS 2016). Large, mature individuals of Eastwood’s goldenbush were observed growing in the middle of the LOD. A total of 13 plants were counted within the grading area and 21 plants were counted within the LOD.

**Table 2. Special-Status Plant Species in Grading Area and Limits of Disturbance**

Scientific Name	Common Name	No. of plants within LOD	Sq. feet of plant cover with LOD	No. of plants within Grading Area	Sq. feet of plant cover within Grading Area
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>	Hooker’s manzanita	6	283	0	0
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita	45	2,132	7	565

<i>Ericameria fasciculata</i>	Eastwood's goldenbush	21	426	13	253
<b>Summary</b>		<b>72</b>	<b>2,841</b>	<b>20</b>	<b>818</b>

## 6 CENTRAL MARITIME CHAPARRAL

The Site is covered with central maritime chaparral vegetation; Pajaro manzanita predominates and Hooker's manzanita and brittle leaf manzanita (*Arctostaphylos crustacea*) also grow within the Site. Additional native species observed within the LOD include deerweed (*Acmispon glaber*), bush monkeyflower (*Mimulus aurantiacus*), coyote brush (*Baccharis pilularis* ssp. *consanguinea*), wedge-leaved horkelia (*Horkelia cuneata* var. *cuneata*), California coffeeberry (*Frangula californica*), coast live oak (*Quercus agrifolia*), chamise (*Adenostoma fasciculatum*), bracken fern (*Pteridium aquilinum*), common yarrow (*Achillea millifolium*), and rush-rose (*Crocanthemum scoparium*). The central maritime chaparral habitat around the grading area encompasses approximately one acre and is surrounded by coast live oak woodland, non-native Eucalyptus, cleared private land, dirt roads, and agricultural lands.

Central maritime chaparral is characterized as a special-status plant community in the legacy CNDDDB legacy community classification system (Holland 1986), and as Pajaro manzanita chaparral (*Arctostaphylos pajaroensis* Shrubland Alliance) in the CNPS/CDFW Manual of California Vegetation (Sawyer, Keeler-Wolf, and Evens 2009). *Arctostaphylos pajaroensis* Shrubland Alliance has a G1 global rarity ranking and an S1 state rarity ranking (fewer than 6 viable occurrences worldwide, and/or up to 1,280 acres), according to Sawyer, Keeler-Wolf, and Evens (2009). CDFW treats natural communities with a G1/S1 rarity ranking as critically imperiled in California because of extreme rarity (often five or fewer occurrences) or because of some factor(s), such as very steep declines, making it especially vulnerable to extirpation from the State (CDFW 2018).

## 7 WILDLIFE FINDINGS

Suitable nesting bird habitat is present throughout the Site. During the April 18, 2016 survey a red-tailed hawk (*Buteo jamaicensis*) was observed perched on tower 04/024. No nests or nest material were observed within or in the vicinity of the Site. California towhees (*Melospiza crissalis*) were observed foraging and an American crow (*Corvus brachyrhynchos*) was observed in the area.

The Site does not offer suitable habitat for special-status wildlife species identified within the five-mile CNDDDB search (Figure 4). No burrows were noted within the Site. California red-legged frogs have been documented in the vicinity (CNDDDB 2016), however none were observed during the survey. The closest stream is approximately 600 feet to the north and 225 feet down a steep slope. California red-legged frogs are not expected to occur within the Site, and impacts from grading activities are not anticipated to affect this species.

No special-status wildlife was observed during the reconnaissance survey, and habitat within the Site is not suitable to support those identified in the CNDDDB record search.

## 8 MINIMIZATION MEASURES

The following proposed measures, when implemented during project activity, will minimize impacts to special-status species and will assist with revegetation by native species.

- The project footprint will be minimized to the maximum extent feasible and avoid unnecessary disturbance to native vegetation. Where feasible, shrubs shall be cut to the ground without disturbing roots to allow for potential resprouting by some shrub species.
- Preconstruction surveys for Pajaro manzanita, Hooker's manzanita and Eastwood's goldenbush will be conducted within the LOD and plants will be flagged to assist crews with avoidance when possible. Where feasible, temporary fencing (e.g., orange construction fencing) should be installed outside a five-foot buffer from the canopy edge of any sensitive native shrub or shrubs and should remain in place for the duration of grading and construction activities in the area. Fencing should be supported by posts on minimum six-foot (1.8 m) centers or equivalent.
- Work activities will be conducted outside of bird nesting season (February 1 to August 15), if feasible. Prior to initial ground disturbances occurring between February 1 and August 15, a pre-construction survey for nesting birds should be completed two weeks before initial ground disturbing activities to provide specific information on any nesting activities and to ensure that no nesting birds are impacted by project activities. A construction avoidance zone (buffer) from any active bird nests should be established and maintained during construction activities within this time-frame.
- To minimize impacts to special-status plant species, grading will be accessed from the southwest where there is a preexisting eroded slope. All Hooker's manzanita individuals will be avoided this way.
- After grading, the eroded slope will be stabilized using erosion control best management practices (BMPs) to avoid further slope failure and subsequent impacts to native vegetation surrounding the graded area.
- Where feasible, the special-status shrubs will be salvaged under the oversight of a qualified restoration ecologist with experience in plant salvaging. The entire root ball and surrounding soil should be excavated, and plants should be immediately placed in pre-moistened holes of the same size within prepared areas within the LOD. Soil should then be backfilled and gently tamped down to prevent air pockets. Each salvaged plant should then be watered in to keep roots moist and further eliminate air pockets.
- The top 6 inches of topsoil will be removed and stockpiled nearby on plastic sheets to avoid weed seed introduction and erosion; if the piles will remain for any length of time during the rainy season, ventilated tarps should be placed over the top. After grading activities are complete, the topsoil will be replaced across the disturbed area, which will be excavated slightly below grade to facilitate topsoil replacement. Special care will be employed to avoid over-compacting, and erosion control blankets will be applied to any slope steeper than 2:1 that receives topsoil.

## 9 PERFORMANCE CRITERIA

The general goal of the minimization measures is to provide functional habitat for native plants and animals within the LOD, including sensitive shrub species. Performance criteria are provided to measure progress toward this goal. Performance criteria are provided in Table 3.

Progress towards achievement of these performance criteria will be quantitatively measured by a qualified restoration ecologist on an annual basis during a three-year monitoring period. Failure to meet the annual performance standards will result in an assessment of causative factors and potential remedial solutions.

**Table 3. Performance Criteria**

Metric	Performance Criteria	Monitoring Frequency	Monitoring Findings	Actions
Invasive weed presence in LOD areas.	Invasive weed cover (Cal-IPC rating of 'high' <sup>1</sup> ) in post-construction work areas shall remain less than 5% at all times. After three years, targeted invasive weed cover shall be less than 5%.	Twice yearly, in January and May/June	Non-native invasive weed cover less than or equal to 5%. If weed eradication event required, targeted invasive weed cover by highly invasive species is zero after weed eradication events.	Continue monitoring; note any target weeds or new weed infestations encountered and conduct weed abatement, if needed.
			Non-native invasive weed cover greater than or equal to 5%. Targeted invasive weed cover by highly invasive species (Cal-IPC rating of high) is more than zero after weed eradication events.	Conduct weed abatement and schedule follow-up monitoring event to ensure compliance.
Erosion control and soil stabilization.	Substrate stable, no sedimentation into adjacent natural areas.	Twice yearly, in January and May/June; more frequently if large storm events suggest additional monitoring would be needed.	Criteria met	Continue monitoring
			Destabilization of soils; sedimentation into adjacent natural areas.	Repair or provide additional erosion control measures as needed.
Native plant cover in LOD areas.	Native plant cover will gradually increase, attaining 5% cover by Year 2 and 10% cover by Year 3	Once annually in May/June. Visual cover estimates of most abundant 5 native species in 5 locations within LOD.	Native plant equals or exceeds 5% by Year 2 and 10% by Year 3	Continue monitoring
			Native plant equals or is less than 5% by Year 2 and 10% by Year 3	Apply native seed mix to increase cover.
Presences of sensitive shrub species in LOD areas.	Ongoing presence of at least one of three sensitive shrub species within the LOD (Hooker's manzanita, Pajaro manzanita, or Eastwood's goldenbush)	Once annually in May/June. Census of three sensitive shrub species within LOD.	Native sensitive shrub species present	Continue monitoring
			Native sensitive shrub species absent	Add seed of sensitive shrub species collected from surrounding area, if needed.
<sup>1</sup> California Invasive Plant Council (Cal-IPC): California Invasive Plant Inventory, 2006.				

## 10 MONITORING AND REPORTING

The LOD areas will be monitored for the following criteria over a three-year period, utilizing the performance criteria outlined in Table 3, where relevant; a qualitative monitoring event will be conducted in January or after recent heavy rains and a quantitative monitoring event in late spring (May/June):

- Non-native invasive species density, location, and effectiveness of weed treatments, if applicable
- Brief plant list summarizing observed species
- Native plant cover (visual cover estimates of most abundant 5 native species in 5 locations within LOD. Percentage of bare ground will also be estimated, along with non-native weed cover)
- Presence, location, and quantity of sensitive shrub species within the LOD
- Evidence of erosion or burying of plants

If onsite conditions fail to meet performance targets, the monitoring biologist will propose corrective steps to a qualified restoration ecologist, including broadcasting seed, conducting weed eradication, or installing remedial erosion control measures.

A brief summary report will be completed by the end of each monitoring year documenting the monitoring results and any adaptive management measures conducted and/or needed. The report will present the findings, including tables summarizing native plant cover, weed cover, presence of sensitive shrub species, and observed plant species; photographs; and a discussion addressing the establishment and recovery of native vegetation within the LOD and its trajectory in meeting the performance criteria. After the three years of monitoring the restoration will be determined to be a success if all success criteria have been met. Monitoring and reporting will continue beyond three years if all the success criteria have not been met.

## 11 ADAPTIVE MANAGEMENT

Adaptive management is the process of evaluating the Site after each monitoring event to determine if the Site is progressing towards, or has met, the performance criteria. In addition to the actions proposed in Table 3, there may be other unanticipated issues that arise, such as damaging herbivory or wildfire. These contingency issues will be discussed by the internal management team and recommendations will be made to address them, as needed.



## 12 REFERENCES

- AECOM 2012. *Field Report*. NERC Alert Project: Moss Landing-Metcalf 500 kV Transmission Line. AECOM. July 26, 2012.
- Arcadis 2015. *Survey of Potential Sensitive Plant Resources, Moss Landing-Metcalf 500kV Transmission Line*. Arcadis. June 3, 2015.
- California Department of Fish and Wildlife (CDFW). 2016. *Natural Diversity Data Base (CNDDDB)*. RareFind Version 5. Sacramento, California.
- California Department of Fish and Wildlife (CDFW) 2018. *Vegetation Classification and Mapping Program – Natural Communities*. <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive> natural communities (Accessed October 2018).
- California Invasive Plant Council. 2006. *California Invasive Plant Inventory*.
- California Native Plant Society (CNPS). 2018. *Inventory of Rare and Endangered Plants* (online edition). Rare Plant Scientific Advisory Committee. California Native Plant Society. Sacramento, CA. <http://www.rareplants.cnps.org>
- Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, The Resources Agency, California Department of Fish and Game. Sacramento, California. iii + 156 pp.
- Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *Manual of California Vegetation*. Second Edition. California Native Plant Society. Sacramento, California. 1,300 pp.

# FIGURES



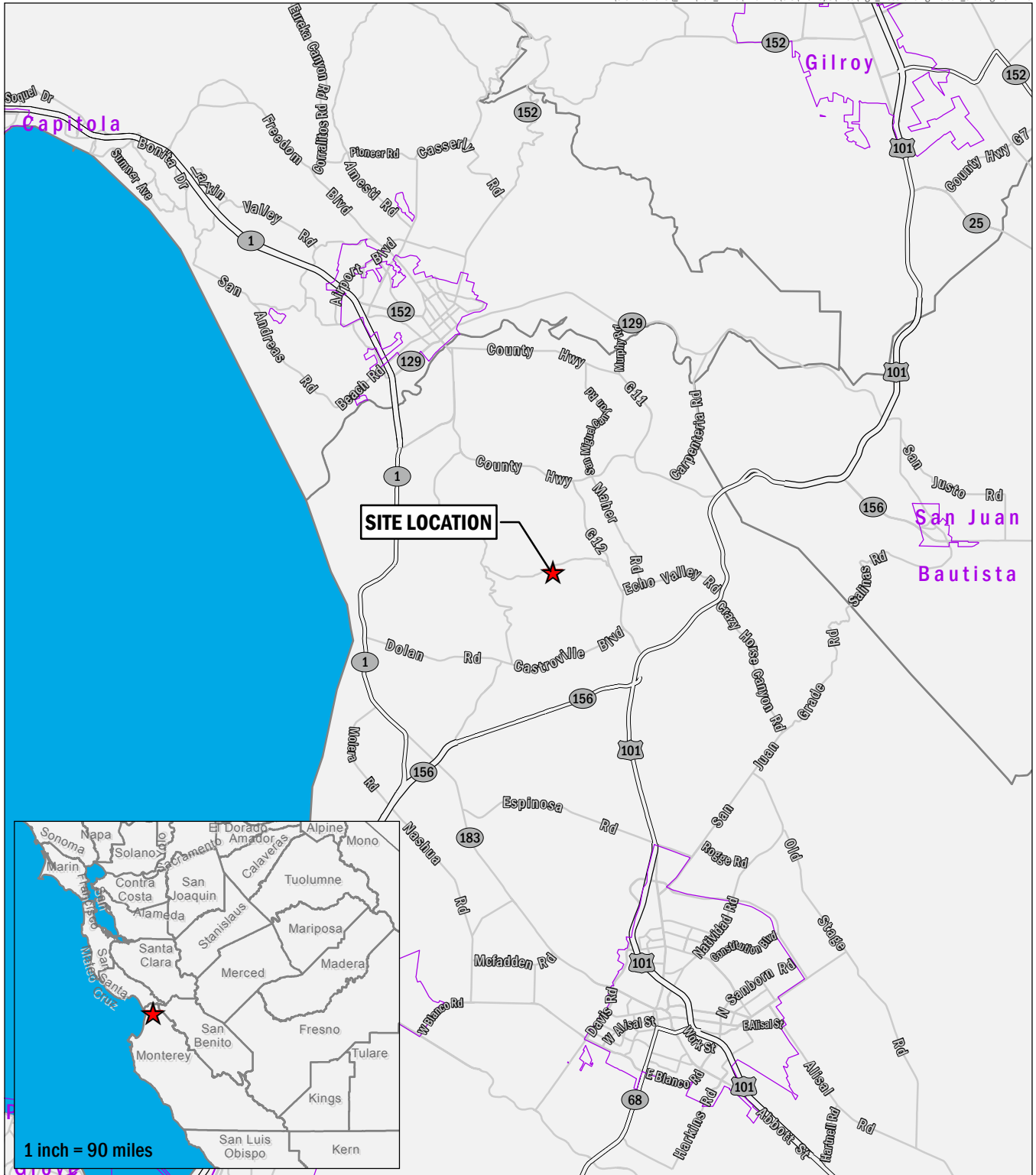






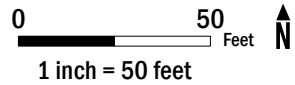
Figure 1  
Site Vicinity

0 3.5 Miles  
1 inch = 3.5 miles

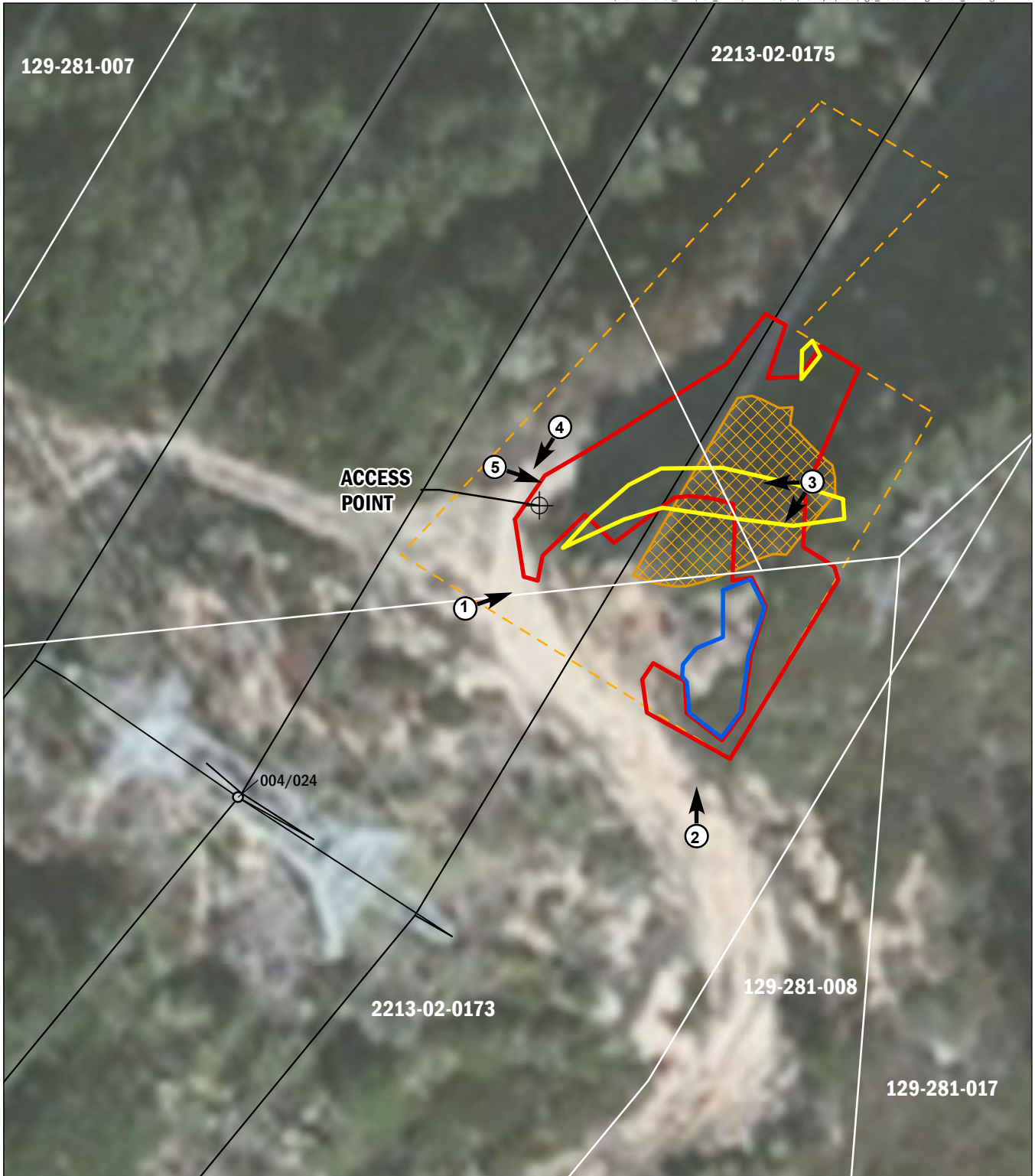


-  Central maritime chaparral
-  Dirt Access Road
-  Limits of Disturbance
-  Property Line - Labeled with APN

## Moss Landing-Metcalf 500kV







① Photo Location (appendix A)

**Special Status Species Survey**

- Eastwood's goldenbush (*Ericameria fasciculata*)
- Hooker's manzanita (*Arctostaphylos hookeri*)
- Pajaro manzanita (*Arctostaphylos pajaroenensis*)

**Grading Area**

- Grading Area
- Limits of Disturbance

Property Line - Labeled with APN

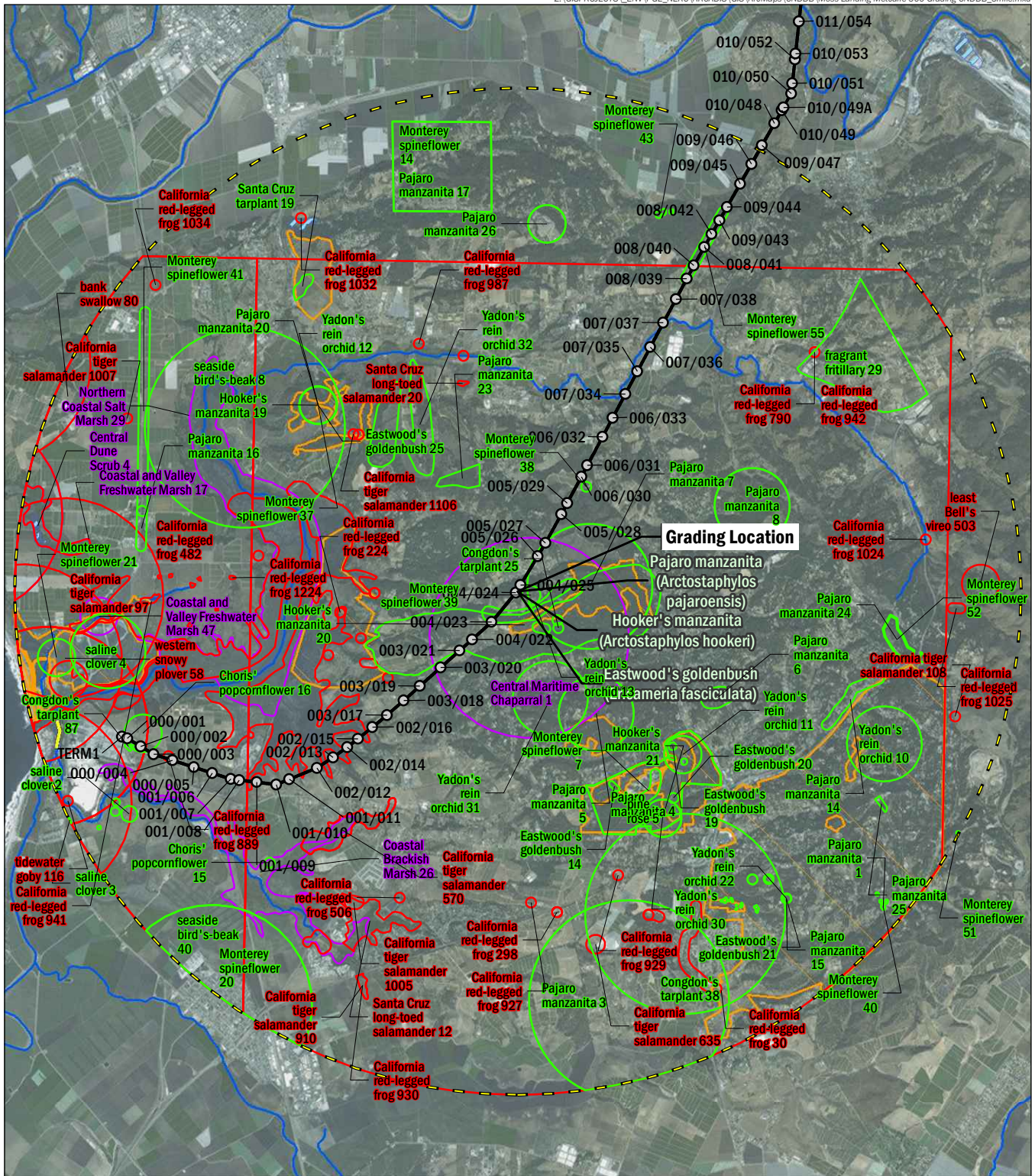
Access Point



DATA SOURCE: Esri Imagery  
PROJECTION: NAD 1983 California Teale Albers

CIRCUIT	NOTE
Moss Landing-Metcalf 500kV (Monterey County)	Biological Assessment for Towers 004/024-004/025 Span Proposed Grading





**CNDDB Occurrences**

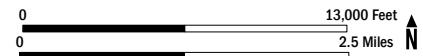
- Plants
- Animal
- Terrestrial Community
- Aquatic Community

**USFWS and NMFS Designated Critical Habitat**

- Critical Habitat Line
- Critical Habitat Area
- Grading Area**
- Grading Area
- Limits of Disturbance

**Biological Field Observations**

- Point
- Line
- Polygon



DATA SOURCE  
California Department of Fish and Game, California Natural Diversity Database (CNDDDB), Esri Imagery

PROJECTION  
NAD 1983 California Teale Albers

CIRCUIT	STRUCTURE
Moss Landing-Metcalf 500kV	Grading Area

**Figure 4: CNDDDB & CRITICAL HABITAT OCCURRENCES**


Within 5 mile radius of PGE NERC Program


# APPENDIX A

## Photographic Log







<b>Client Name:</b> Pacific Gas & Electric		<b>Location:</b> Monterey County, California		<b>Project No.</b> PGE11000.0001
<b>Tower</b> <b>004/024</b>	<b>Date:</b> 4/18/2016			
<b>Photo: 1</b>				
<b>Description:</b> Proposed grading area above erosion feature. Tower 004/025 in background.				


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<b>Tower</b> <b>004/024</b>	<b>Date:</b> 4/18/2016			
<b>Photo: 2</b>				
<b>Description:</b> Looking north at proposed grading site.				




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<b>Tower</b> <b>004/024</b>	<b>Date:</b> 4/18/2016			
<b>Photo: 3 west</b>				
<b>Description:</b>  Proposed grading area in foreground. Tower 004/024 in background.				

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<b>Tower</b> <b>004/024</b>	<b>Date:</b> 4/18/2016			
<b>Photo: 3 south</b>				
<b>Description:</b>  Hooker's manzanita in lower left of frame.				



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<b>Photo: 4</b>				
<b>Description:</b>  Tower 004/024 in background.				

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<b>Tower</b> <b>004/024</b>	<b>Date:</b> 4/18/2016			
<b>Photo: 5</b>				
<b>Description:</b>  Proposed grading area location on top of small knoll in middle of frame.				

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending across the bottom of the page. Two other lines are diagonal, starting from the bottom left and extending towards the top right, crossing the horizontal line.

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