FINAL

APPLICATION FOR CERTIFICATION

Biological Resources Mitigation Implementation and Monitoring Plan

BIO-6

Oakley Generating Station

09-AFC-4C

June 2011

Submitted by

CCGS LLC

Submitted to

California Energy Commission

With Technical Assistance by

CH2MHILL

IS01201022315 1SAC

BIO-6

Biological Resources Mitigation Implementation and Monitoring Plan

for the

Oakley Generating Station

(09-AFC-4C)

Prepared for

CCGS LLC

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CH2MHILL
2485 Natomas Park Drive
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Acronyms and Abbreviations

AFC	Application for Certification
BMP	best management practice
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
CCGS LLC	Contra Costa Generating Station, LLC
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CESA	California Endangered Species Act
CNPS	California Native Plant Society
Conservancy	East Contra Costa County Habitat Conservancy
CPM	Compliance Project Manager
CVRWQCB	Central Valley Regional Water Quality Control Board
DESCP	Drainage Erosion and Sediment Control Plan
ECCC HCP/NCCP	East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan
ESA	Federal Endangered Species Act
GPS	geographic positioning system
kV	kilovolt
LORS	laws, ordinances, regulations, and standards
MBTA	Migratory Bird Treaty Act
NPDES	National Pollutant Discharge Elimination System
NWR	National Wildlife Refuge
OGS	Oakley Generating Station
PG&E	Pacific Gas and Electric Company
ROW	right-of-way
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEAP	Worker Environmental Awareness Program

Preface

This Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for the Oakley Generating Station (OGS) project in Contra Costa County is being submitted to comply with Condition of Certification, BIO-6 as set forth in the California Energy Commission's (CEC) Commission Decision for the OGS project dated May 2011 (CEC, 2011a). This document has also been prepared to meet the Construction Monitoring Plan requirements outlined in Section 6.3.3, Construction Monitoring, of the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP) (ECCCHC, 2007), specifically as required in the approved Planning Survey Report (PSR) Application for the Oakley Generating Station Project.

The purpose of the BRMIMP is to identify all mitigation, monitoring, and compliance measures related to biological resources that will be implemented during facility construction and operation. This BRMIMP addresses all components of the OGS project and will be amended if necessary to account for new information or changing conditions. Laws, ordinances, regulations, and standards applicable to the OGS project are provided in Table 4-2. A description of the Worker Environmental Awareness Program (WEAP), required by Condition of Certification, BIO-5, is also addressed in this document. A copy of the WEAP pamphlet is provided in Appendix A.

This plan incorporates the terms and conditions of the following license, permits, opinions, and agreements:

- CEC – Biological Resource Findings, Conclusions, and Conditions of Certification from the May 2011 Commission Decision in Docket No. 09-AFC-4 (see Appendix B)
- East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (ECCC HCP/NCCP), Participating Special Entity Agreement and Certificate of Inclusion (See Appendix B)
- ECCC Planning Survey Report (PSR) (See Appendix B)

SECTION 1

Purpose and Background

This Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) summarizes the sensitive biological resources that will be potentially affected by the Oakley Generating Station (OGS) project and the measures required to avoid, minimize, or compensate for impacts on these resources. The biological resources mitigation and monitoring procedures discussed in this plan were outlined in the OGS Application for Certification (AFC) filed by Contra Costa Generating Station, LLC (CCGS LLC) with the California Energy Commission (CEC) in June 2009 (CCGS LLC, 2009), the Commission Decision (CEC, 2011a), which contains the CEC staff's independent analysis and final recommendations for the OGS, and the PSR submitted to the East Contra Costa County Habitat Conservancy (Conservancy). A condensed version (i.e., without the figures and attachments) of the PSR is included in Appendix B of this document. A complete copy of the PSR will be available on-site during construction.

This BRMIMP describes the measures that will be implemented by OGS and its employees and contractors during both the construction and operation of the OGS project. This BRMIMP addresses all features of the project, including construction of the OGS power plant site, the 2.4-mile 230-kilovolt (kV) transmission line and the forced main sewer pipeline. The BRMIMP is being implemented to ensure that the project is completed in a manner that minimizes and/or avoids impacts to the natural environment by appropriate compliance with terms and conditions of various permits and approvals.

The BRMIMP includes the following primary components:

- All biological resource mitigation, monitoring, and compliance measures identified as necessary to avoid or mitigate impacts and agreed to by CCGS LLC
- All biological resource conditions of certification identified as necessary to avoid or mitigate impacts
- All biological resources mitigation, monitoring, and compliance measures required in the Participating Special Entity Agreement and Exhibit 1 the Planning Survey Report, those terms, conditions, and requirements as approved by the Conservancy All biological resource mitigation, monitoring, and compliance measures required in other state agency terms and conditions, such as those provided in the National Pollution Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit
- All biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements
- A list of all sensitive biological resources that will be affected, avoided, or mitigated during project construction, operation, and closure
- All required mitigation measures for each sensitive biological resource

- A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities
- All locations, on a map at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction (Figure 3-1a through 3-1l)
- Aerial photographs, at an approved scale, of sensitive biological resource areas to be disturbed during project construction activities—one set prior to any site (and related facilities) mobilization disturbance (Figures 2-3a through 2-3l) and one set subsequent to completion of project construction. Including planned timing of aerial photography and a description of why times were chosen
- Duration for each type of monitoring and a description of monitoring methodologies and frequency
- Performance standards to be used to help decide if/when proposed mitigation is or is not successful
- All performance standards and remedial measures to be implemented if performance standards are not met
- A preliminary discussion of biological-resources-related facility closure measures
- A process for proposing plan modification to the Compliance Project Manager (CPM) and appropriate agencies for review and approval

SECTION 2

Project Description and Schedule

2.1 Project Description

The OGS (formerly the Contra Costa Generating Station) is a combined-cycle, natural-gas-fired power plant owned by Contra Costa Generating Station, LLC (CCGS LLC). The project will consist of two natural-gas-fired combustion turbines with heat recovery steam generators, a steam turbine, air-cooled condenser, and ancillary equipment.

Power from the facility will be transmitted 2.4 miles to Pacific Gas and Electric Company's (PG&E) Contra Costa Substation on a new 230-kV single-circuit transmission line. Construction of this line will follow an existing PG&E transmission line right-of-way (ROW) and will consist of replacing existing steel-lattice towers with tubular steel poles and reconductoring the line. It will also be necessary to construct a new sanitary sewer force main from the project tie-in location on Bridgehead Road to the gravity main located in Main Street. Construction of this line would be within the Bridgehead Road and Main Street ROWs. The proposed construction worker parking and laydown area for the project will be located east of the proposed project parcel, and soil from the project will be temporarily stockpiled in three areas north of the project parcel.

The project site is located at the intersection of Bridgehead Road and Wilbur Avenue, approximately 3,000 feet south of the San Joaquin River in the city of Oakley, Contra Costa County (Figures 2-1 and 2-2). The project site is bounded on the west by the PG&E Antioch Terminal, a large natural gas transmission hub; on the north by formerly industrial property belonging to DuPont that has been abandoned; on the east by DuPont's titanium dioxide disposal area; and to the south by a vineyard and the Burlington Northern railroad.

The pre-construction conditions for the project area and associated linears are shown in Figures 2.3a through 2.3l.

2.2 Project Schedule

The project schedule showing construction activities, along with surveys and monitoring designed to protect biological resources, is presented in Table 2-1. A complete discussion of pre-construction surveys is included in Section 6 of this plan. A list of the key construction events is also provided in Table 2-1, along with protection measures and construction limitations identified for biological resources.

Construction of the generating facility, from site preparation and grading to commercial operation, is expected to take place from the second quarter of 2011 to the second quarter of 2014, lasting a total of 33 months.

TABLE 2-1
Project Milestone Schedule*

Event Description	Expected Dates	Essential Biological Resource Protection Measures
Date of expected certification by CEC	Second Quarter 2011	N/A
Construction of the OGS project boundaries, clearing and grubbing, and sediment fence installation.	Second Quarter 2011	Biological Monitor required to clear/survey area for wildlife prior to any ground disturbance on the project. No work to be performed in giant garter snake habitat between October 1 and May 1.
Construction of laydown, parking, and construction offices	Second Quarter 2011	Biological Monitor required to clear/survey all areas for wildlife prior to any ground disturbance on the project and when areas have not had continuous disturbance for one week or more.
Power plant construction	Second Quarter 2011	Biological Monitor required to clear/survey all areas for wildlife prior to any ground disturbance on the project.
Transmission line construction	Fourth Quarter 2011	Biological Monitor required to clear/survey all areas for wildlife prior to any ground disturbance on the project.
Startup and test	Third Quarter 2013	N/A
Biological resources post-construction report	Due 30 days after construction is complete (expected to be second quarter 2013)	Designated biologist to conduct a post-construction site visit to determine whether habitats are restored per restoration success criteria.
Commercial Operation	First Quarter 2014	N/A

* October 15 – April 15 represents the start and end of the rainy season. Project site and linears will require the implementation of the Stormwater Pollution Prevention Plan (SWPPP) protection measures prior to the start of the rainy season. April 15 represents the typical start date of permitted water crossings.

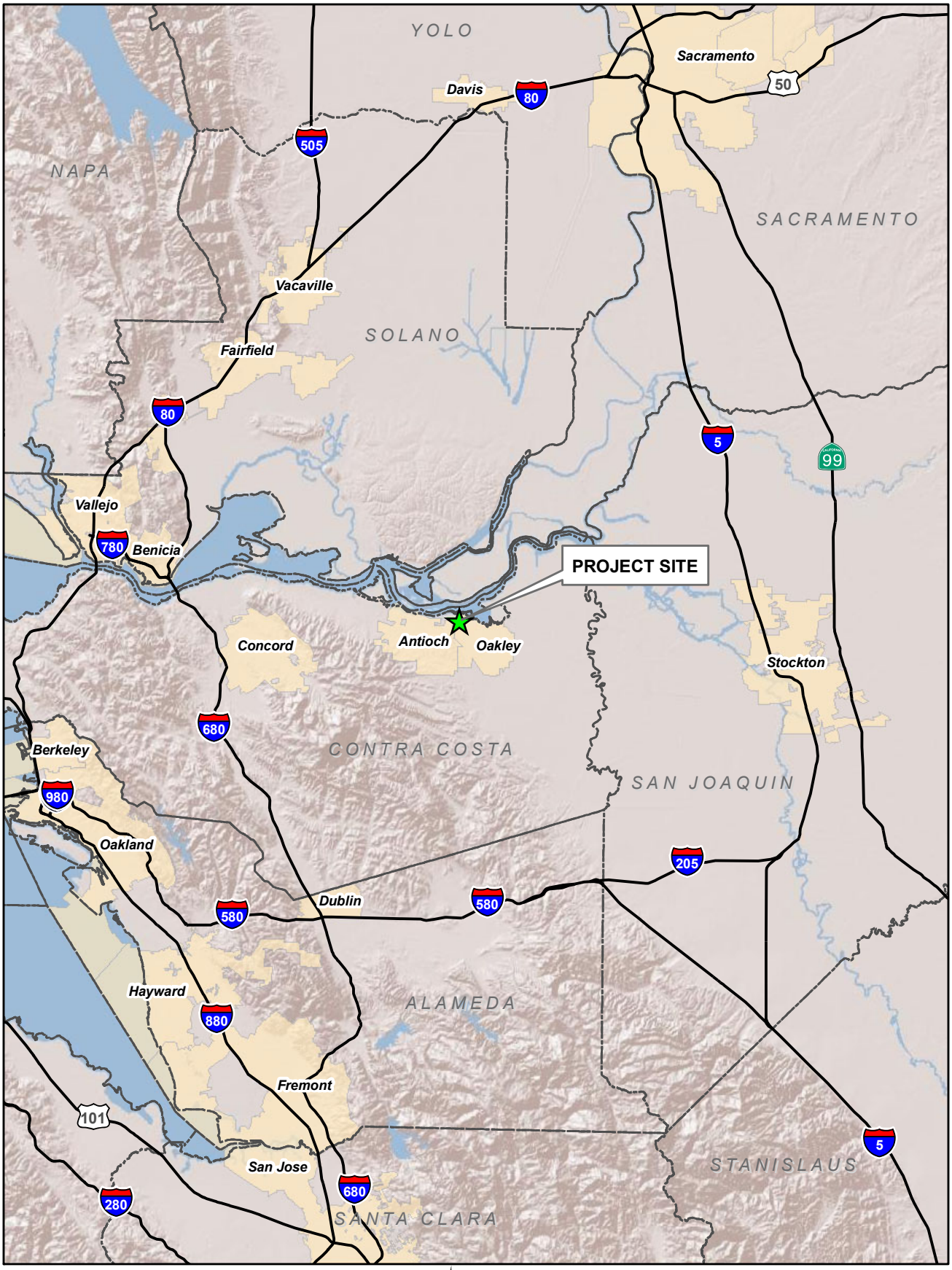

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FIGURE 2-1
Project Vicinity
Oakley Generating Station
Oakley, California

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This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

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FIGURE 2-2
PROJECT LOCATION
Oakley Generating Station
Oakley, California

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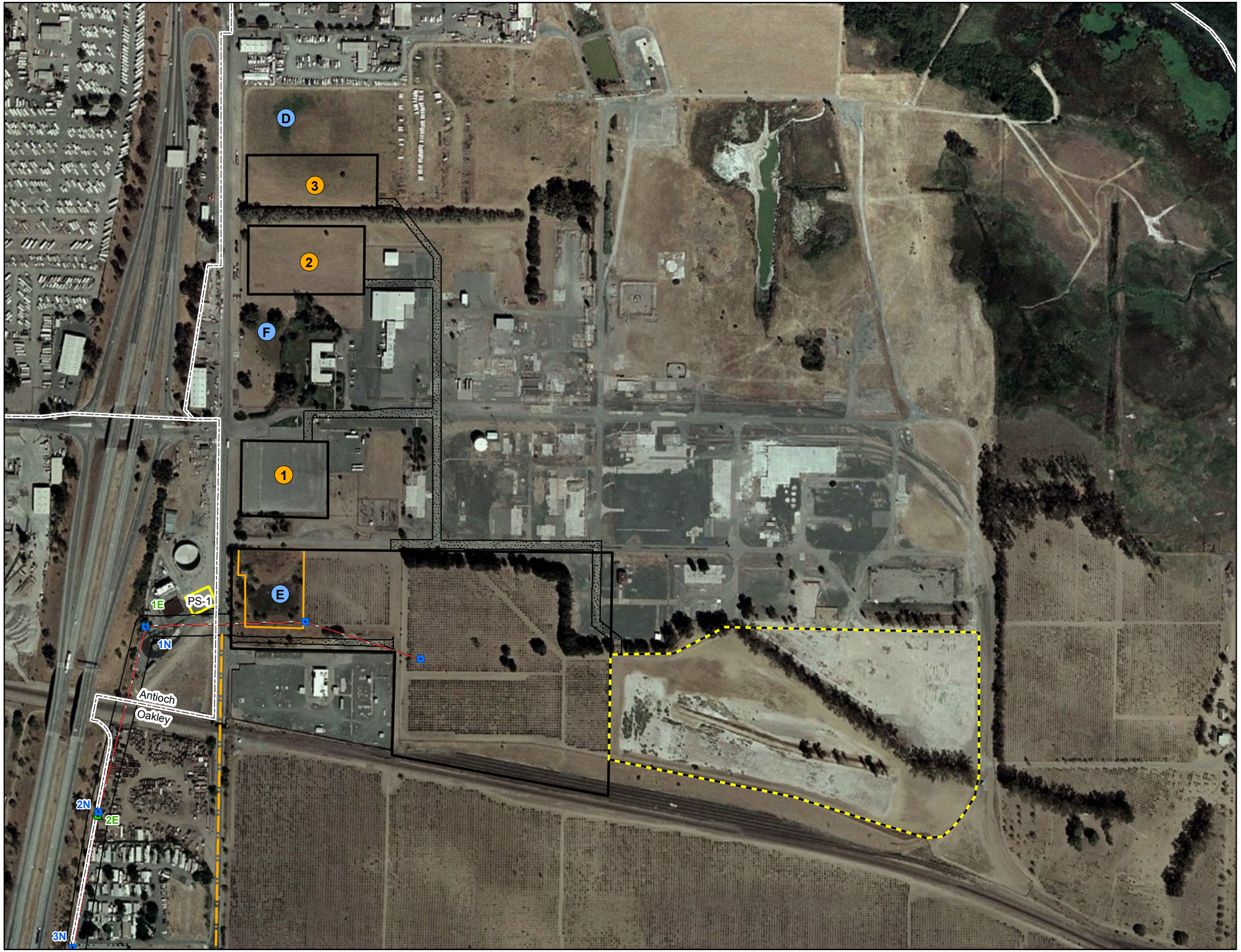

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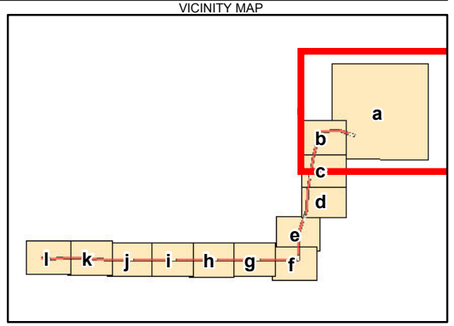

LEGEND

- Existing 60 kV Tower Locations
- New 230 kV Tower Locations
- Existing 230 kV Tower Location (40' Extension to be Added)
- Proposed 230 kV Transmission Line
- Sanitary Sewer Force Main
- Wetland E Conservation Easement
- Construction Laydown Area
- Pull Site
- Access Road
- City Limits
- Soil Stockpile Area
- Wetland Area

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Figure 2-3a
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

VICINITY MAP

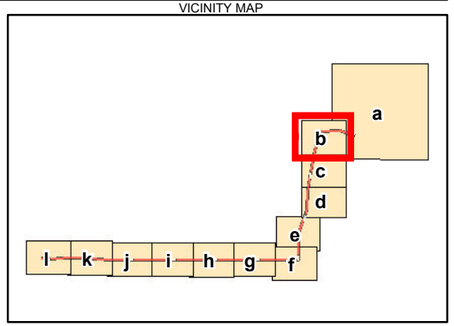

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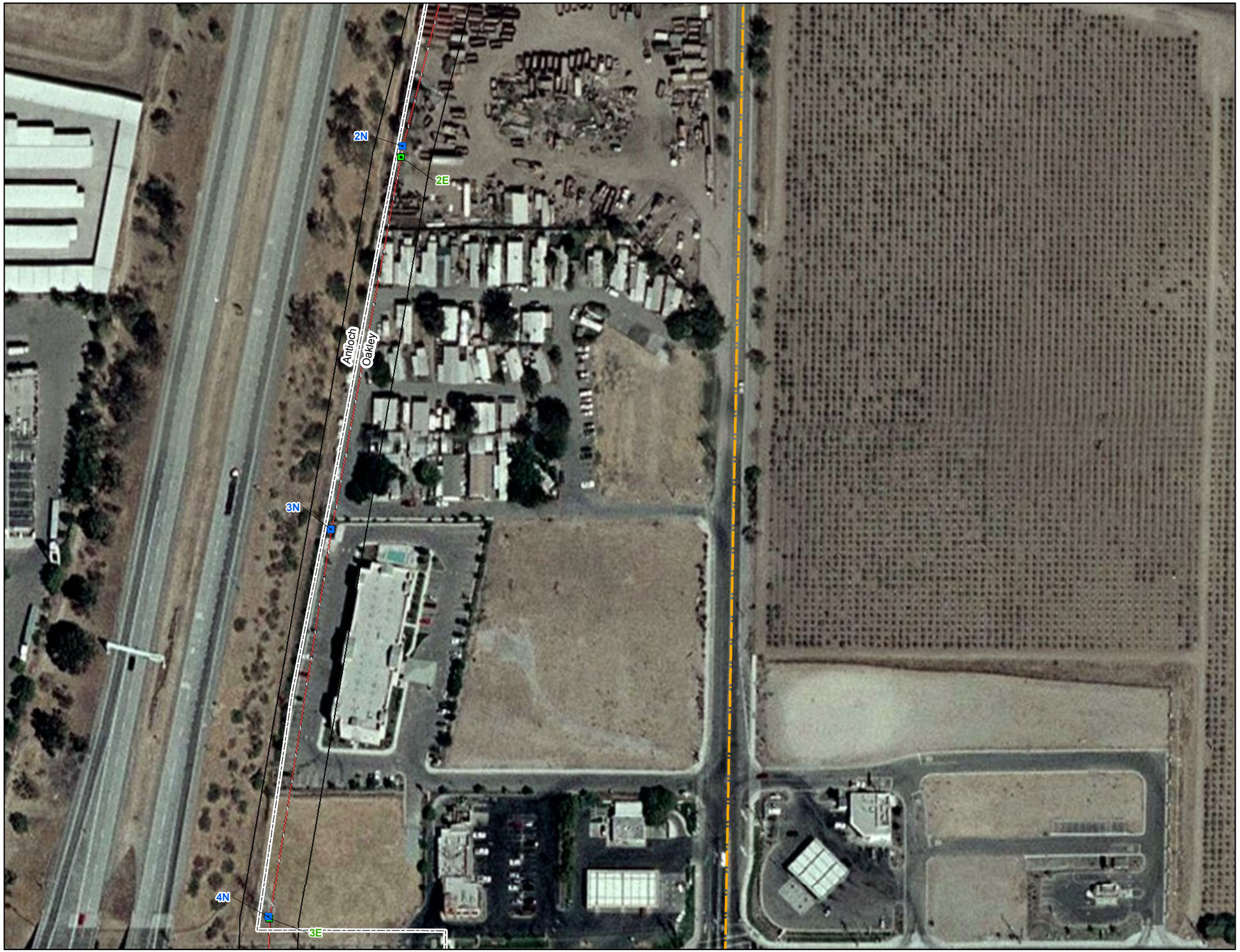
Figure 2-3b
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California



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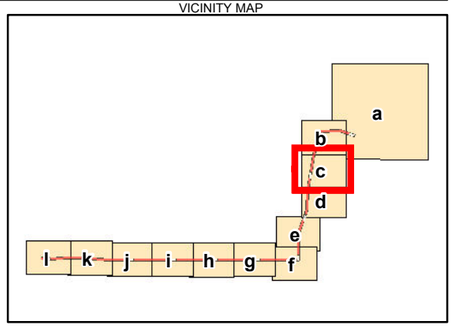

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Figure 2-3c
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

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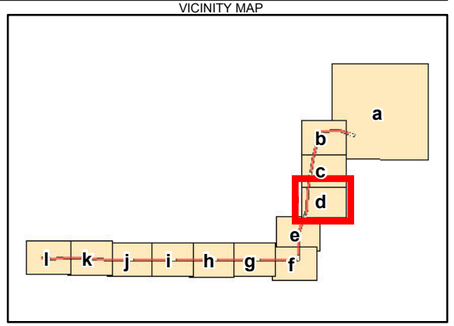

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Figure 2-3d
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

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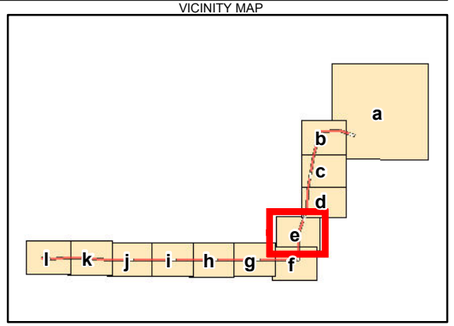

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Figure 2-3e
Land Cover Habitat Survey
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Oakley, California

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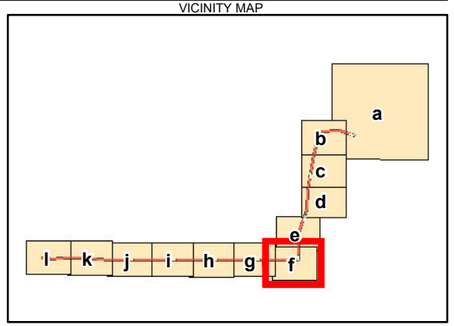

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Figure 2-3f
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

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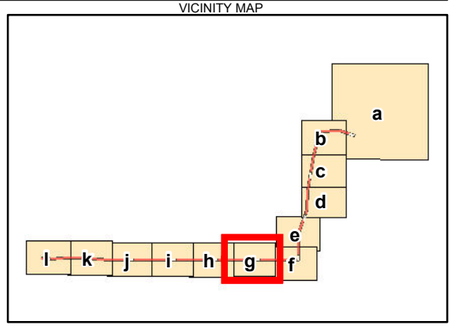

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Figure 2-3g
Land Cover Habitat Survey
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Oakley, California

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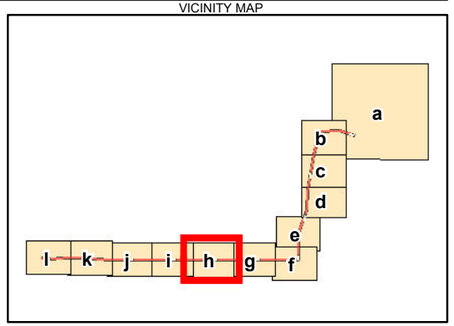

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Figure 2-3h
Land Cover Habitat Survey
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Oakley, California

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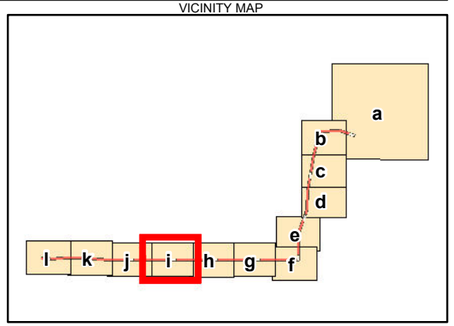

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Figure 2-3i
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

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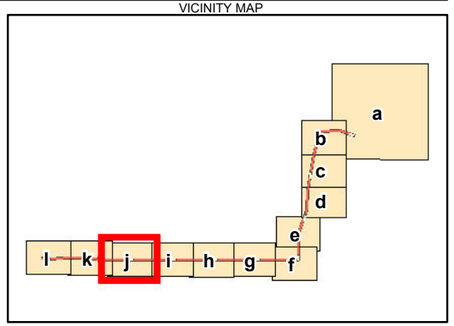

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Figure 2-3j
Land Cover Habitat Survey
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Oakley, California

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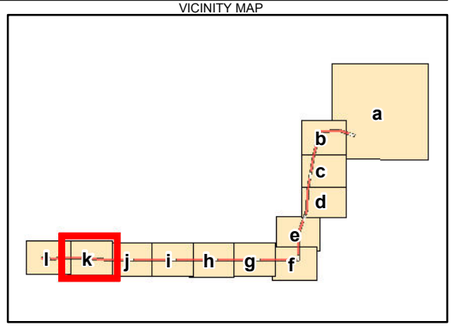

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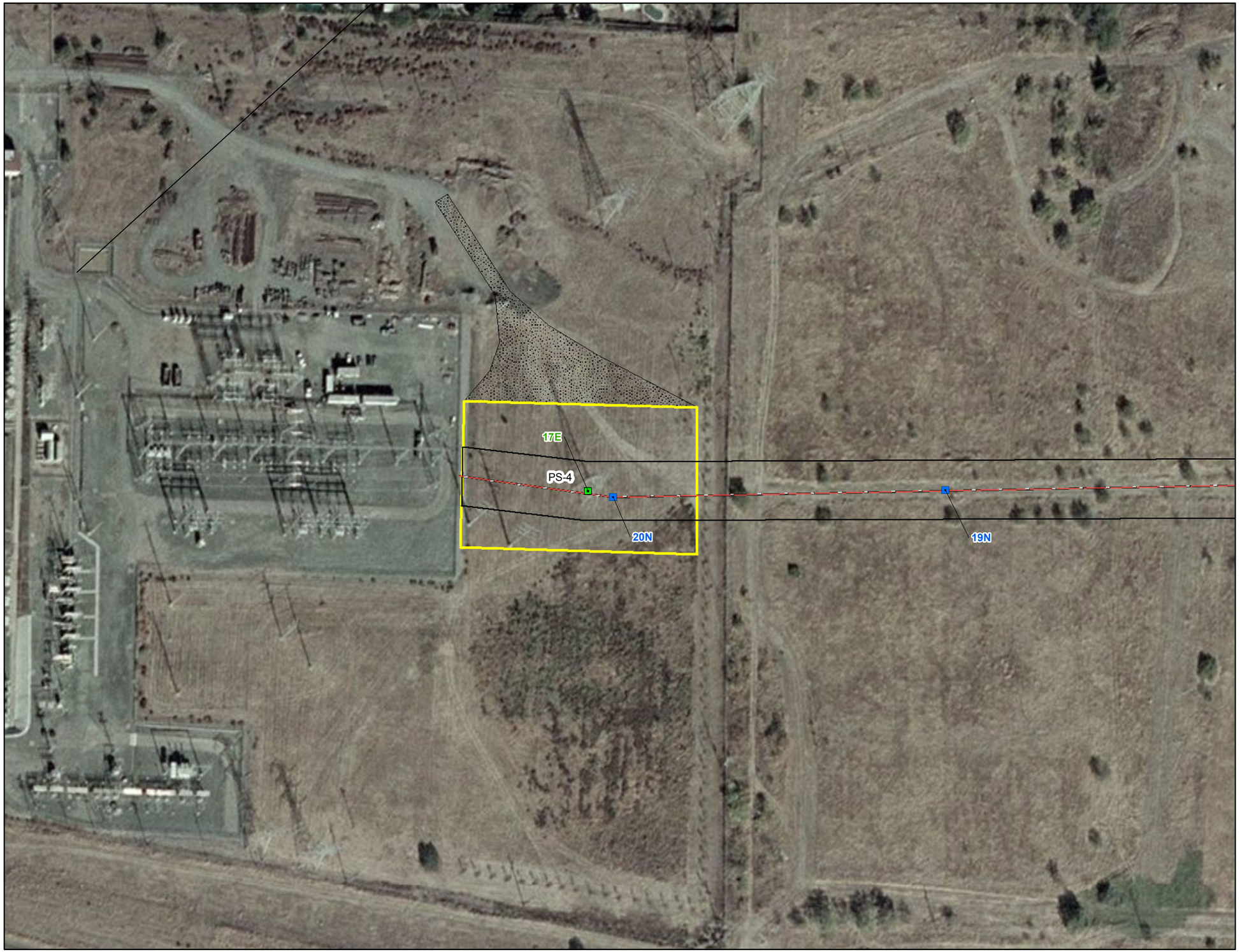
Figure 2-3k
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California



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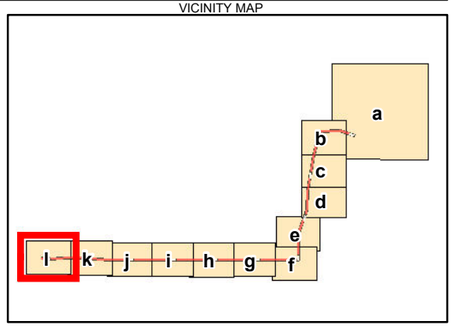

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Figure 2-3l
Land Cover Habitat Survey
Oakley Generating Station
Oakley, California

SECTION 3

Summary of Biological Resources

3.1 Existing Vegetation, Wildlife, and Habitats

3.1.1 Power Plant Area

Biological surveys for the OGS project were conducted by CCGS LLC in 2009, 2010, and 2011. The project parcel is in an area of active vineyard agriculture with a central cluster of oak trees. The project parcel is bordered to the north by a narrow row of mature eucalyptus trees that separates the project parcel from the rest of the former DuPont manufacturing site with intermittent strips of ruderal grassland surrounding the parcel. The western "panhandle" of the project parcel consists of a small conserved wetland, called Wetland E (discussed below). The project parcel consists of 21.95 contiguous acres: 13.94 acres are in agricultural production as a vineyard, 1.6 acres are the conservation easement for Wetland E, 3.0 acres are ruderal cover, 0.60 acre is non-native woodland, and 2.82 acres area paved surface (urban classification).

Based on conversations with Conservancy staff, 16.7 acres would be considered a permanent impact under the HCP/NCCP. Silt fencing and sensitive habitat fencing will be installed to protect the 1.6-acre Wetland E conservation easement, and the only activity in the Wetland E conservation easement will be associated with the enhancement of the easement. Ground disturbance in the area between the Wetland E conservation easement and Bridgehead Road will be limited to minor disturbances associated with the installation of permanent facility fencing and implementation of the Wetland E conservation easement enhancement activities.

Vegetation at the project parcel is vineyard agriculture consisting primarily of wine grapes (*Vitus vinifera*). A cluster of six interior live oak trees (*Quercus wislizeni*) is also present within the vineyard. The remainder of the project parcel (2.68 acres) is vegetated with ruderal species such as ripgut brome (*Bromus diandrus*), redstem stork's bill (*Erodium cicutarium*), miniature lupine (*Lupinus bicolor*), and common deerweed (*Lotus scoparius*). A row of Tasmanian blue gum (*Eucalyptus globulus*) lines the northern edge of the parcel and encompasses 0.6 acres.

Consistent with the Cities of Oakley and Antioch's tree removal permitting process, a tree inventory was conducted in 2010. Based on the results of the survey, eighteen trees were identified and inventoried for removal within the project site. Six interior live oaks and six almond trees will be removed from the project site, and a six eucalyptus trees within the row along the northern edge of the project site will be removed to incorporate a roadway between the parcels on either side. A nesting bird survey will be conducted prior to the removal of any trees. If a nest tree is discovered, removal of the tree will postponed until the birds have fledged. Additionally, silt fencing and sensitive habitat fencing will be installed prior to the start of construction to protect the remaining eucalyptus trees (Figure 3-1a).

An isolated wetland area, constructed in 1996 as mitigation for offsite impacts related to the Lauritzen Yacht Harbor, is adjacent to and part of the western end of the project parcel. The entire conservation easement area is 1.6 acres in size. Common tule (*Schoenoplectus acutus*) and common cattail (*Typha latifolia*) are the dominant species present in the open water portion of the 0.62-acre wetland, while willows (*Salix lasiolepis*) dominate the narrow slope between the edge of the water and top of the bank. The wetland easement is isolated from other wetlands, and hydrology is supported by direct precipitation, sheetflow runoff from Bridgehead Road and the PG&E Antioch Terminal, and surface water inputs from the project parcel.

This wetland, known as Wetland E, was delineated as part of a wetland delineation study of the entire DuPont property in 2006 (DuPont Engineering, 2007; 2008). The U.S. Army Corps of Engineers (USACE) declared this wetland to be non-jurisdictional because it lacks a connection to jurisdictional waters (it is considered an isolated wetland) (Dadey, 2008). However, this wetland is under perpetual conservation easement. CCGS LLC has designed the OGS stormwater drainage system as a system of bioswales, in accordance with the Contra Costa County C.3 drainage design requirements and in consultation with the California Department of Fish and Game (CDFG), to ensure that existing drainage from the project parcel is not altered in a way that impairs this wetland.

The area within the Wetland E conservation easement will be protected by silt fencing and sensitive habitat fencing. Furthermore, CCGS LLC has also committed to enhance the quality of the Wetland E by developing a Monitoring and Adaptive Management Plan, consistent with CEC Condition of Certification, BIO-19 and SOIL&WATER-6.

3.1.2 Construction Laydown Area

The proposed construction laydown area, construction parking, and stockpile areas are also located on the former DuPont manufacturing facility site (Figure 3-1a). The proposed construction laydown area is located east of the proposed project site and consists of DuPont's former titanium dioxide disposal site, which is approximately 13.22 acres of barren ground and ruderal vegetation, and a 6.48–acre paved area. A row of mature eucalyptus trees is present along the southwest and southern boundary of the paved area. Several eucalyptus trees are also present along the top of a berm near the eastern edge of the paved area. Silt fencing and sensitive habitat fencing will be installed around the row of eucalyptus trees and the group of trees growing in the ruderal grasslands (Figure 3-1a). Therefore, no tree removal is expected as part of the preparation of the construction laydown area. The construction laydown area will be accessed via the new entrance lane extending from Bridgehead Road, just south of the intersection of Bridgehead Road and Wilbur Avenue.

3.1.3 Soil Stockpile Areas

Soil from the project parcel will be temporarily stockpiled in three areas north of the project (Figure 3-1a). Stockpile area 1 (2.22 acres) will be located on an existing paved surface. Stockpile areas 2 (2.68 acres) and 3 (2.32 acres) are located further north in ruderal areas on either side of a row of salt cedar (*Tamarix* sp.). No tree removal is expected as part of the preparation of the soil stockpile areas, with the exception of some tree trimming to gain access to Stockpile area 3. Stockpile area 2 is located in a regularly disked field south of the

row of salt cedar trees and is 84 feet north of Wetland F (0.37-acre). Stockpile area 3 is north of the trees and is 46 feet south of Wetland D (0.38-acre). Common ruderal vegetation in these areas includes rat-tail fescue (*Vulpia myuros*), redmaids (*Calandrinia ciliata*), old-man-in-the-Spring (*Senecio vulgaris*), horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), Spanish clover (*Acmispon americanus*), longspine sandbur (*Cenchrus longispinus*), Russian thistle (*Salsola tragus*), and puncture vine (*Tribulus terrestris*). Wetlands F and D are both classified as palustrine emergent and are outside the project parcel, the construction laydown area, and the soil stockpile areas. The soil stockpile areas will be accessed via existing paved and unpaved surfaces on the former DuPont facility (Figure 3-1a).

3.1.4 Transmission Line Corridor

The proposed 230-kV electrical transmission line will replace an existing 60-kV transmission line that runs approximately 2.4 miles south and west from OGS to the PG&E Contra Costa substation. The new 230-kV transmission line would require the replacement of 17 existing steel-lattice towers with 20 tubular steel poles and the extension of one existing 230-kV transmission tower (Figures 3-1a through 3-1l). The existing 230-kV transmission tower will be extended 40 feet to allow clearance for the new 230-kV line associated with the project (Figure 3-1h). The existing ROW for the transmission line is 80 feet wide. Boring and installation of 16-square-foot concrete foundations at each of the tower locations will be required to provide subsurface support for the steel poles. Because the transmission line ROW is currently in use, with existing towers, no additional permanent impacts are expected to result from construction of the proposed towers. Construction will require approximately 400 square feet of temporary vegetation clearance in each area where a transmission tower will be located. However, CCGS LLC proposes to provide temporary impact mitigation for the entire existing 80-foot ROW to provide flexibility for the final installation design.

Within the City of Oakley, the transmission line crosses areas zoned for utility and commercial uses. Within the City of Antioch, the alignment is within areas zoned as Planned Development Districts (P-D) associated with the State Route 4 Industrial Frontage Focus Area (LSA, 2003). Although a portion of the transmission line route is within the City of Antioch, the project has been extended coverage through the ECCC HCP/NCCP as a Participating Special Entity.

The existing 60-kV towers are located in a variety of land uses, including active industrial and commercial properties and paved roadways (categorized as urban), landscaped residential areas, vacant lots, and abandoned agricultural areas characterized by ruderal vegetation (categorized as ruderal), and active vineyard agricultural (categorized as vineyard) (Figures 3-1a through 3-1l). The transmission line ROW also includes a small portion of riparian habitat and open water associated with East Antioch Creek (Figure 3-1j). This area will not be disturbed during tower installation and removal, but is located about 120 feet east of an existing tower. Therefore, the area will be protected with sensitive habitat signage and sediment control measures to ensure no disturbance occurs in this area during construction activities (Figure 3-1j).

As previously noted, a tree inventory was conducted for the project. Based on the results of the survey, ten trees were identified and inventoried for removal within the transmission line route. One of the ten trees indentified (interior live oak) is protected under the City of

Oakley Tree Ordinance. However, the tree is located within an electric utility easement, and is therefore exempt from the ordinance under Permit Exceptions (Code Section 9.1.1114.e.f.1). Another one of the ten trees indentified (interior live oak) is protected under the City of Antioch Tree Ordinance. A tree permit will be obtained and compensatory mitigation will be provided prior to tree removal. Additionally, there will be no grading or construction disturbance within the drip line of protected trees. The upgrade will be completed and the ROW will be restored within 2 years. The transmission tower locations are presented in Figures 3-1a through 3-1l and Figure 3-2.

3.1.5 Sanitary Sewer Force Main Corridor

A portion of the existing sanitary sewer extending from the project tie-in location on Bridgehead Road to the gravity main located in Main Street would have insufficient capacity for the project's sanitary sewer discharge. For this reason, OGS will construct a dedicated project sanitary sewer force main from the project site to an interconnection point in Main Street (Figures 3-1a through 3-1d). The new sanitary sewer will extend south from an interconnection point in Bridgehead Road for 0.33 mile to Main Street. It will then turn east and run for 0.11 mile to the interconnection point with Ironhouse Sanitary District's gravity main. The existing ROW assumed in the Habitat Survey for the force main is 30 feet wide. The existing force main is located under the paved road surface.

There are thin strips of ruderal vegetation along the sides of the road that consist of ripgut brome (*Bromus diandrus*), yellow star thistle (*Centaurea solstitialis*), Italian ryegrass (*Lolium multiflorum*), spiny sowthistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), and wild oats (*Avena* barbata). Vegetation along the roadsides appears to be routinely sprayed with herbicide for weed control and fire suppression. In addition to the ruderal herbaceous vegetation, several trees are present along the shoulders of Bridgehead Road, including interior live oak (*Quercus wislizeni*), almond (*Prunus dulcis*), tree of heaven (*Ailanthus altissima*), and black walnut (*Juglans nigra*). The majority of these trees are less than 20 feet in height and there is evidence of routine trimming near the existing power lines that run adjacent to Bridgehead Road. No tree removal is expected as part of the force main installation.

3.2 Special-status Species

Several databases were reviewed to identify special-status species that may be affected by the OGS project. Special-status species that could occur in the project area were identified by regional lists provided by the U.S. Fish and Wildlife Service (USFWS, 2010), by CDFG's California Natural Diversity Data Base (CDFG, 2010), and by the California Native Plant Society (CNPS) (CNPS, 2010) (Figure 3-3). The special-status species database searches included the Birds Landing, Rio Vista, Isleton, Antioch North, Honker Bay, Jersey Island, Bouldin Island, Clayton, Antioch South, Brentwood, Woodward Island, Tassajara, and Byron Hot Springs U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles.

The designation of special-status species includes all federal- and state-listed species, candidate species, and species proposed for listing under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA); state species of special

concern; and plant species designated as Rare, Threatened, or Endangered (List 1B or List 2) by CNPS.

The following special-status species have the potential to occur in the project area based on the proximity of known occurrences, the historical range of these species, agency consultation, habitat evaluations, jurisdictional delineations, and biological surveys conducted in 2009, 2010, and 2011.

3.2.1 Amphibians and Reptiles

Based on the criteria described above, the following five species of amphibians and reptiles have the potential to occur in the project area:

- California red-legged frog (*Rana draytonii*), a California Species of Concern and Federal Threatened Species (along transmission line near East Antioch Creek)
- California tiger salamander (*Ambystoma californiense*), a California and Federal Threatened Species (onsite near Wetlands D, E and F)
- Giant garter snake (*Thamnophis gigas*), a California and Federal Threatened Species (along transmission line near East Antioch Creek)
- Silvery legless lizard (*Anniella pulchra pulchra),* a California Species of Concern
- Western pond turtle (*Emys marmorata*), a California Species of Concern (along transmission line near East Antioch Creek)

3.2.2 Birds

Based on the criteria described above, the following six species of birds have the potential to occur in the project area:

- Western burrowing owl (*Athene cunicularia*), a California Species of Concern (may use ground squirrel burrows along the transmission line alignment)
- Swainson's hawk (*Buteo swainsoni*), a California Threatened Species (forage and potential nesting within the project area and along the transmission line alignment)
- Golden eagle (*Aquila chrysaetos*), Bald and Golden Eagle Protection Act, State Fully Protected (may forage within the project area and along the transmission line alignment) and also a no-take species as covered by the Conservancy.
- White-tailed kite (*Elanus leucurus*), a California Fully Protected Species (forage and potential nesting habitat on project site and transmission line alignment) and also a no-take species as covered by the Conservancy.
- Loggerhead Shrike (*Lanius ludovicianus*), a California Species of Special Concern
- Northern harrier (*Circus cyaneus*), a California Species of Special Concern protected by Migratory Bird Treaty Act, and CDFG raptor codes
- Migratory birds and birds protected under the federal Migratory Bird Treaty Act (MBTA) (all habitats and project areas)

3.2.3 Mammals

Based on the criteria described above, the following four species of mammals have the potential to occur in the project area:

- Pallid bat (*Antrozous pallidus*), a California Species of Concern (foraging and roosting habitat onsite in eucalyptus trees)
- Western red bat (*Lasiurus blossevilli*), a California Species of Concern (foraging and roosting habitat onsite in eucalyptus trees)
- American badger (*Taxidea taxus*), a California Species of Concern (open grassland habitats, including potential denning or forage habitat onsite and along transmission line alignment)
- San Joaquin kit fox (*Vulpes macrotis mutica*), a California Threatened Species and Federally Endangered Species (valley and foothill grassland or mixed shrub/grassland habitats, including margins of agricultural fields that provide potential denning and forage habitat along the transmission line alignment)

For a detailed description of special-status species that may be disturbed by the project and a description of potential impacts on these species, please refer to the 2009 OGS AFC (CCGS LLC, 2009) and the CEC Final Staff Assessment (CEC, 2011b). Biological impacts have been minimized to the extent feasible by locating facilities away from sensitive resources and by the proposed protection and mitigation measures presented in this document.

3.3 Compensatory Mitigation Requirements

3.3.1 Protected Trees Mitigation Fees (BIO-8)

To comply with various protected tree ordinances, CCGS LLC will mitigate for loss of protected trees based on the results of the project arborist report. Mitigation will include either mitigation fees and/or the purchase of replacement trees. CCGS LLC submitted the project arborist report to the CEC CPM for review and approval. The arborist report identifies all trees under the jurisdiction of the City of Oakley and City of Antioch that will be removed for the project. The report also identifies all protected trees within the City of Antioch that will be remain but may be potentially impacted by grading within the drip line of the protected trees. A copy of the receipt of payment and/or verification of tree replacement for the protected trees will be provided to the CPM prior to tree removal.

3.3.1.1 City of Oakley

A tree permit will be obtained from the City of Oakley Community Development Department prior to removal of the protected trees. In addition, one of the following mitigation options is required: three new trees of the same species will be planted for each protected tree removed; the total appraisal fee for the protected trees scheduled to be removed will be paid to the Community Development; or a combination of replacement tree plantings and in lieu fee payments will be made. Mitigation will be assessed by the CPM in coordination with City of Oakley based on review of the arborist report.

3.3.1.2 City of Antioch

A tree permit will be obtained from the City of Antioch prior to the removal of protected trees. Mitigation will be assessed by the CPM in coordination with City of Antioch based on review of the arborist report. The arborist report identifies all trees under the jurisdiction of the City of Antioch that will be removed for the project, and also identifies all protected trees that will be remain but may be potentially affected by grading within the drip line of the protected trees. A bond is required for each protected tree at which grading will occur within the drip line within the City of Antioch. CCGS LLC submitted written verification to the CPM and the City of Antioch stating that no construction activities will occur within the drip line of protected trees and no bond is required.

3.3.2 Antioch Dunes National Wildlife Refuge Funding (BIO-20)

Indirect impacts on the nearby Antioch Dunes National Wildlife Refuge (NWR) would result from nitrogen deposition caused by emissions from the OGS project. The Antioch Dunes NWR contains the last known populations of federal Endangered Lange's metalmark butterfly, federal and state Endangered Antioch Dunes evening primrose, and federal and state Endangered Contra Costa wallflower. The greatest threat to these listed species is noxious weed invasion and the resultant cascading effects (for example, competition or wildfire). Noxious weed proliferation is exacerbated by nitrogen deposition. Because the Antioch Dunes NWR is already experiencing habitat degradation likely caused by nitrogen deposition and fertilization, additional nitrogen deposition from OGS at this already stressed ecosystem could be a significant impact.

OGS will provide an annual payment to the California Wildlife Foundation or other third-party approved by USFWS to assist in noxious weed management and its effects at the Antioch Dunes NWR. Management activities funded may include but are not limited to: captive breeding and release of Lange's metalmark butterfly; propagation and transplantation of naked-stem buckwheat, Contra Costa wallflower, and Antioch Dunes evening primrose; and noxious weed eradication using grazing animals, hand tools, and/or appropriate mechanical equipment. The first annual payment will be no less than $5,000.78. Each subsequent annual payment will be adjusted for inflation in accordance with the Employment Cost Index – West or its successor, as reported by the U.S. Department of Labor's Bureau of Labor Statistics. Payment will be made annually for the duration of project operation. No later than 30 days following the start of project operation, CCGS LLC will provide written verification to the CPM, USFWS, and CDFG that the first annual payment was made to the California Wildlife Foundation or other third-party approved by USFWS in accordance with this condition of certification. Additionally, CCGS LLC will provide evidence that it has specified that its annual payment can only be used to assist in noxious weed management and remediation of its effects at the Antioch Dunes NWR.

CCGS LLC will request an annual report from the California Wildlife Foundation of other third-party approved by USFWS documenting how each annual payment was used to assist in noxious weed management at the Antioch Dunes National Wildlife Refuge. Copies of the report will be submitted to the CEC CPM within 30 days of receipt. If the CPM determines that the USFWS has determined that the funds are not being applied as specified by this condition, then the project owner or an agent of the owner shall contract with another third-party approved by the USFWS to directly implement noxious weed management until the

CPM receives verifiable proof that the California Wildlife Foundation is using the funds as required.

3.3.3 Mitigation Compensation for Loss of Habitat and Potential Impacts to Special-status Species (BIO-21 and 22)

The OGS project is within the plan area for the ECCC HCP/NCCP. The implementing entity for the ECCC HCP/NCCP is the Conservancy, which is a joint exercise of powers of authority formed by the cities of Brentwood, Clayton, Oakley, and Pittsburg and Contra Costa County (collectively known as the Permittees). The ECCC HCP/NCCP provides a coordinated, regional permitting approach to conservation and regulation. The Final ECCC HCP/NCCP was published in October 2007; implementation of the ECCC HCP/NCCP allows the Permittees to control endangered species permitting for activities and projects in their jurisdictional permit area while providing comprehensive species, wetlands, and ecosystem conservation.

The OGS site and a portion of the transmission line lies within the City of Oakley, however, approximately 1.6 miles of the transmission line are located in the City of Antioch, which is not a Permittee. Although a portion of the transmission line route is within the City of Antioch, the project has been extended coverage through the ECCC HCP/NCCP as a Participating Special Entity. The fully executed Participation Special Entity Agreement including Exhibit 1 the Planning Survey Report is included in Appendix B.

The Commission Decision requires the that project owner shall pay mitigation fees for temporary and permanent impacts based on the acres of impact (CEC staff assumes a 1:1 mitigation ratio for temporary and permanent impacts) as a one-time development fee of $227,408 or updated fee as adjusted by the Conservancy, pending the approval date and the Annual Adjustment of mitigation fees. As a Participating Special Entity, the project owner will make a $200,000 contribution to the recovery of endangered and threatened species. The project owner will also make a contribution to complementary conservation planning as determined by the Conservancy's Governing Board.

3.3.4 U.S. Fish and Wildlife Permits (BIO-23)

CCGS LLC will provide a copy of any USFWS permit issued for the OGS project (e.g., Incidental Take Permit). The terms and conditions contained in the permit shall be incorporated into the project's BRMIMP and implemented by the project owner. CCGS LLC will submit to the CPM a copy of the USFWS permit within 15 days of issuance by the USFWS. At that time, CCGS LLC will also verify that the permit terms and conditions are incorporated into the BRMIMP and will be implemented.

SECTION 4

Authority and Lines of Communication

The first part of this section describes the responsibilities of three groups of participants: regulatory agencies; a third-party biologist (Designated Biologist); and OGS, its employees, contractors, and construction crews. The qualifications that the Designated Biologist will satisfy are also described in this section.

The second part of this section describes the lines of communication and chain of command and identifies which persons have the authority to stop or temporarily suspend surface-disturbing activities during project construction and operation.

4.1 Definitions of Participants

The CEC has designated a staff member to serve as its CPM. The CPM oversees compliance with the CEC conditions of certification for the OGS project. The CEC CPM is also responsible for processing post-certification changes, documenting and tracking compliance filings, and ensuring that compliance files are maintained and accessible.

The Designated Biologist, OGS Environmental Compliance Manager, and Biological Monitors will represent OGS and will have compliance reporting responsibilities to the agencies and OGS. These responsibilities and relationships are described later in this section.

OGS construction personnel will be referred to as contractors and include the construction project manager, construction inspector, plant manager, contractor supervisor, resident engineer, and the crew foreman and crew.

Regulatory agencies involved include the Conservancy, USFWS, USACE, CDFG, CEC, and the Central Valley Regional Water Quality Control Board (CVRWQCB). Table 4-1 lists the project personnel and agency contacts for the OGS project. Permits from each of these agencies include terms and conditions imposed to mitigate impacts on biological resources. Agency agreements and/or permits will be provided when they become available and will be provided as Appendix B.

TABLE 4-1
Oakley Generating Station Project Personnel and Agency Contacts

Project Owner CCGS LLC P.O. Box 1690 Danville, CA 94526	Greg Lamberg, Senior Vice President Phone: (925) 820-5222 Mobile: (925) 799-9463 Email: greg.lamberg@radback.com
Designated Biologist CH2M HILL 2485 Natomas Park Drive, Suite 600 Sacramento, CA 95833-2937	Rick Crowe, CH2M HILL Direct: (916) 920-0212 x416 Mobile: (916) 296-5525 Fax: (916) 920-8463 Email: richard.crowe@ch2m.com
Biological Monitor CH2M HILL 2485 Natomas Park Drive, Suite 600 Sacramento, CA 95833-2937	Dan Williams, CH2M HILL Direct: (916) 920-0212 Mobile: (916) 943-8247 Fax: (916) 920-8463 Email: daniel.williams@ch2m.com
Biological Monitor CH2M HILL 2485 Natomas Park Drive, Suite 600 Sacramento, CA 95833-2937	Victor Leighton, CH2M HILL Direct: (916) 920-0212 x415 Mobile: (916) 425-7862 Fax: (916) 920-8463 Email: victor.leightoniii@ch2m.com
OGS Environmental Compliance Manager CCGS LLC P.O. Box 1690 Danville, CA 94526	Greg Lamberg, Senior Vice President Phone: (925) 820-5222 Mobile: (925) 799-9463 Email: greg.lamberg@radback.com
CEC CPM 1516 Ninth Street Sacramento, California 95814	Craig Hoffman Phone: (916) 654-4781 Email: choffman@energy.state.ca.us
East Contra Costa County Habitat Conservancy Contra Costa County, Department of Conservation and Development 651 Pine Street, North Wing, 4th Floor Martinez, CA 94553	Krystal Hinojosa Phone: (925) 335-1271 Email: krystal.hinojosa@dcd.cccounty.us
USFWS 2800 Cottage Way Room W-2605 Sacramento, California 95825	Stephanie Jentsch Phone: (916) 414-6496 Email: Stephanie_Jentsch@fws.gov
CDFG 7329 Silverado Trail Napa, CA 94558	Randi Adair Phone: (707) 944-5596 Email: radair@dfg.ca.gov

4.2 Responsibilities of the Participants

Although responsibilities are divided, ultimately the OGS construction team and the Designated Biologist collectively have the responsibility to reach a consensus when conflicts arise among construction, environmental, and landowner concerns. From time to time, it is possible that one or more of the regulatory agencies may be consulted as part of conflict resolution.

4.2.1 Designated Biologist Selection (BIO-1)

Condition of certification BIO-1 requires assignment of a Designated Biologist with the following minimum qualifications:

- A bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field
- Three years of experience in field biology or current certification of a nationally recognized biological society such as the Ecological Society of America or The Wildlife Society
- At least one year of field experience with biological resources found in or near the project area

In lieu of the above requirements, the resume will demonstrate to the satisfaction of the CPM, that the proposed Designated Biologist or alternate has the appropriate training and back ground to effectively implement the conditions of certification.

CCGS LLC has assigned Rick Crowe of CH2M HILL as the Designated Biologist for the project. The CEC CPM has approved Mr. Crowe to serve as the Designated Biologist. As required, Mr. Crowe meets the necessary qualifications.

No site or site-related activities will commence until the approved Designated Biologist is available to be onsite. If a Designated Biologist needs to be replaced, the specified information about proposed replacement will be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, CCGS LLC will immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

4.2.2 Designated Biologist Duties (BIO-2)

CCGS LLC will ensure that the Designated Biologist performs the following activities during any site mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by approved biological monitors but remains the contact for CCGS LLC, the CPM, CDFG, Conservancy, and USFWS. The Designated Biologist will perform the following activities:

- Advise CCGS LLC's construction/operation managers on the implementation of biological resource conditions of certification and ECCC HCP/NCCP PSR.
- Consult on the preparation of the BRMIMP, to be submitted by CCGS LLC.
- Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources such as special-status species or their habitats.
- Clearly mark sensitive biological resource areas (such as those shown in Figures 3-1a through 3-1l) and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.

- Inspect active construction areas where animals may have become trapped.
- Inspect for installation of structures that prevent entrapment or allow escape during periods of construction inactivity.
- Periodically inspect areas with high vehicle activity (for example, parking lots) for animals in harm's way.
- Notify CCGS LLC and the CPM of any noncompliance with any biological resource condition of certification.
- Respond directly to CPM inquiries regarding biological resource issues.
- Maintain written records of the tasks specified above and those included in the BRMIMP; submit summaries of these records in the monthly compliance report and the annual report.
- Train the biological monitors as necessary and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP), and all biological resource-related permits.
- Submit a monthly compliance report to the CPM during project construction that includes copies of all written reports and summaries that document biological resource activities. Monthly compliance reports will also be submitted to the Conservancy. If actions may affect biological resources during operation, the Designated Biologist will be available for monitoring and reporting. During project operation, the Designated Biologist will submit record summaries in the annual compliance report unless duties are ceased as approved by the CPM. The Designated Biologist will notify the CPM, CDFG, USFWS, and the Conservancy within 24 hours of any project-related take of state or federal listed species.

4.2.3 Biological Monitor Selection (BIO-3)

CCGS LLC's CPM-approved Designated Biologist will submit resumes, at least three references, and contact information for the proposed biological monitors to the CPM for approval. The resumes will demonstrate to the CPM's satisfaction the appropriate education and experience required to accomplish the assigned duties. The Designated Biologist's biological monitor training will include familiarity with the conditions of certification and the BRMIMP, WEAP, and all permits.

CCGS LLC will submit the specified information to the CPM for approval at least 30 days prior to the start of any site mobilization. The Designated Biologist will submit a written statement to the CPM confirming that individual biological monitors have been trained and providing the date(s) that training was completed. If a new Designated Biologist or additional biological monitors are needed during construction, the specified information will be submitted to the CPM for approval 10 days prior to their first day of monitoring activities.

4.2.4 Agency Responsibilities

Regulatory agency personnel are responsible for enforcing state and federal laws protecting sensitive species and natural resources. Staff from these agencies generally have broad authority to monitor and evaluate projects implemented under permits authorized by the agencies and can take enforcement actions if violations occur. The following agencies have authority associated with biological resources at the OGS project site:

- CEC through the CPM verifies compliance with conditions of certification and approves changes in implementation methodology.
- The Conservancy verifies compliance with the requirements and conditions of the Participating Special Entity Agreement including the payment of fees outlined in Exhibit 1 the fee calculator of the Planning Survey Report and the Certificate of Inclusion (take coverage permit).
- USFWS is responsible for protecting federally listed Endangered and Threatened species and for taking actions pursuant to an ESA Section 7, Incidental Take authorization. This would include measures in the project description or mitigation intended to avoid, minimize, or compensate for adverse impacts to federal listed or candidate species and critical habitat. The USFWS contact will be notified immediately if a listed wildlife species is involved in an injury or fatality.
- CDFG is responsible for (1) protecting species under CESA, (2) construction activities authorized under a Streambed Alteration Agreement, or (3) incidental take authorized under a Fish and Game Code Section 2080.1 agreement. The CDFG contact will be notified immediately if a listed species is involved in an injury or fatality.
- USACE is responsible for regulating the discharge of dredged or fill materials into Waters of the U.S. under the Clean Water Act, Section 404.
- CVRWQCB is responsible for protecting beneficial uses of Waters of the State under the Clean Water Act, Section 401 permit for water quality protection.

The agencies and the CPM will receive copies of the relevant monitoring reports that detail compliance with the permits and authorizations issued for the project. These agencies may also conduct unannounced site visits to ensure compliance with project conditions.

4.3 Authority and Lines of Communication

The regulatory agencies and the Designated Biologist have different responsibilities regarding implementing mitigation measures to protect biological resources. This section of the BRMIMP describes how they will interact on the OGS project.

4.3.1 Regulatory Agencies

If compliance problems arise during any phase of the project, agency representatives would discuss the issue with the CPM, Designated Biologist, CCGS LLC, and CCGS LLC's contractors. If violations occur, work can be stopped on the whole project, or on portions of the project, by the revocation of permits. However, before work is stopped, the aforementioned parties will undertake a good-faith effort to resolve any violations.

4.3.2 Roles and Authority of the Designated Biologist and Biological Monitors

4.3.2.1 Roles of the Designated Biologist and Biological Monitors

The Designated Biologist and Biological Monitor(s), although contracted to CCGS LLC, are responsible for independently ensuring that the requirements described in the BRMIMP are carried out completely and in a timely manner. The following individuals have been named as the Designated Biologist and Biological Monitors for the OGS project (resumes are included in Appendix C):

- Designated Biologist: Rick Crowe, CH2M HILL
- Biological Monitor: Victor Leighton, CH2M HILL
- Biological Monitor: Dan Williams, CH2M HILL

4.3.2.2 Authority of the Designated Biologist and Biological Monitor (BIO-4)

CCGS LLC's construction/operation managers will act on the advice of the Designated Biologist and Biological Monitors to ensure conformance with the biological resources conditions of certification. If required by the Designated Biologist and Biological Monitors, CCGS LLC's construction/operation managers will halt site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist will perform the following actions:

- Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact on biological resources if the activities continued.
- Inform CCGS LLC and the construction/operation managers when to resume activities.
- Notify the CPM if a halt of any activities occurs and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the Biological Monitor will act on behalf of the Designated Biologist.

The Designated Biologist or Biological Monitor will notify the CPM immediately—and no later than the morning following an incident or Monday morning following a weekend incident—of any noncompliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. CCGS LLC will notify the CPM of the circumstances and actions being taken to resolve the problem.

Forms that the Biological Monitor and contractors will use to report observations of wildlife within the project site are provided in Appendix D. Noncompliance Resolution Report forms will be used to document noncompliance with CEC conditions of certification or agency permit terms and conditions and are included in Appendix E.

4.3.3 Roles and Authority of the OGS Construction Personnel

Employees of the Oakley Power Constructors (OPC) and PG&E, for the transmission line reconductoring, are committed to fully implementing the conditions of certification and mitigation measures described in this BRMIMP. By signing the contract documents when

the job is awarded, the construction subcontractors will also commit to comply with the relevant mitigation measures and to cooperate with the Designated Biologist. The bid package will clearly identify the need to comply with environmental protection regulations, including requirements for the WEAP and cooperation with the Designated Biologist. Any new/future owners of OGS will agree to the commitments made under the previous ownership and will agree to abide by the terms and conditions of all permit conditions.

The Resident Engineer is obligated to cooperate with the Designated Biologist by (1) assisting with formulating solutions to problems and potential problems related to the protection of biological resources, and (2) requiring all crews to follow the directions of the Designated Biologist. Table 4-2 summarizes the applicable laws, ordinances, regulations, and standards (LORS).

TABLE 4-2
Laws, Ordinances, Regulations, and Standards Applicable to the Oakley Generating Station Project

Federal	
Clean Water Act of 1977 (Title 33, United States Code, sections 1251-1376, and Code of Federal Regulations, part 30, section 330.5(a)(26)	Prohibit the discharge of dredged or fill material into the Waters of the U.S. without a permit. The administering agency is the USACE.
Endangered Species Act of 1973 (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.,)	Designates and provide for the protection of threatened and endangered plant and animal species and their critical habitat. The administering agency is the USFWS and National Marine Fisheries Service.
Bald and Golden Eagle Protection Act (Title 16, United States Code section 688)	Provide for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the take, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act. The administrating agency is the USFWS.
Migratory Bird Treaty Act (Title 16, United States Code, sections 703 through 711)	Prohibits the take or possession of any migratory nongame bird (or any part of such migratory nongame bird) including nests with viable eggs. The administering agency is the USFWS.
Migratory Bird Treaty Reform Act (70 F.R. 12710-12716 (March 15, 2005))	This Migratory Bird Treaty Reform Act includes a significant change to the MBTA. The law now excludes those species considered to be not native to the United States. The Secretary of the Interior published in the Federal Register the final list of bird species to which the MBTA does not apply. The administrating agency is the USFWS.

TABLE 4-2
Laws, Ordinances, Regulations, and Standards Applicable to the Oakley Generating Station Project

State	
California Endangered Species Act (Fish and Game Code, sections 2050 et sq.)	Protects California's rare, threatened, and endangered species. The administering agency is the CDFG.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	List the plants and animals that are classified as rare, threatened, or endangered in California. The administering agency is the CDFG.
California Code of Regulations (Title 20, sections 1702(q) and (v)	Protects "areas of critical concern" and "species of special concern" indentified by local, state, or federal resource agencies within the project area, including the CNPS. The administrating agency is CDFG.
Natural Communities Conservation Planning Act (NCCPA) of 2002 (Fish and Game Code, sections 2080 through 2835)	Established the NCCPA program, which is a cooperative effort between public and private partners that uses a broad-based ecosystem approach to protecting multiple habitats and species. The administrating agency is the CDFG.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits take of such species. The administering agency is the CDFG.
Native Plant Protection Act (Fish and Game code, section 1900 et seq.)	Designates rare, threatened, and endangered plants in California and prohibits the taking of listed plants. The administrating agency is CDFG.
Nest or Eggs (Fish and Game Code section 3503)	Prohibits take, possession, or needless destruction of the nest or eggs of any bird. The administering agency is CDFG.
Birds of Prey (Fish and Game Code section 3503.5)	Specifically protects California's birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such birds of prey or to take, possess, or destroy the nest or eggs of any such bird. The administering agency is CDFG.
Migratory Birds (Fish and Game Code section 3513)	Prohibits take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird. The administering agency is CDFG.
Significant Natural Areas (Fish and Game Code Sections 1930 et seq.)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat. The administrating agency is CDFG.
Regional Water Quality Control Board	By federal law, every applicant for a federal permit or license for an activity that may result in a discharge into a California water body, including wetlands, must request state certification that the proposed activity will not violate state and federal water quality standards. The administering agency is the CVRWQCB.
Public Resources Code, sections 25500 and 25527	Prohibits siting of facilities in certain areas of critical concern for biological resource, such as ecological preserves, refuges, etc. The administrating agency is the CEC (with comment from CDFG).

TABLE 4-2
Laws, Ordinances, Regulations, and Standards Applicable to the Oakley Generating Station Project

Local	
East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan	Provides for the protection of natural resources, while streamlining the environmental permitting process for impacts on endangered species; provides take authorization under the federal Endangered Species Act and Natural Community Conservation Planning Act for covered species; and provides for species, wetland, and ecosystem conservation contributing to endangered species recovery. The OGS project is a covered activity eligible to seek coverage through the ECCC HCP/NCCP. Not all state and federally listed species that could be impacted by the OGS project are covered by the ECCC HCP/NCCP (i.e., state and federally listed species which occur at the Antioch Dunes NWR are not covered under the ECCC HCP/NCCP).
City of Oakley General Plan	Provides a planning framework for preservation of important ecological and biological resources in consideration of providing adequate resources and infrastructure for projected population growth. The OGS site is within the jurisdiction of the City of Oakley, however, approximately 1.6 miles of the 2.4-mile proposed transmission line route is within the City of Antioch.
City of Oakley Tree Preservation Ordinance	Provides for the preservation of certain protected trees in the City of Oakley. Provides for the protection of trees on private property by controlling tree removal while allowing for reasonable enjoyment of private property rights and property development.
City of Antioch General Plan – Resource Management Element	Provides a planning framework for protection of conservation of resources and preservation of open space in consideration of providing adequate resources and infrastructure for projected population growth. The OGS site is not within the jurisdiction of the City of Antioch; however, approximately 1.6 miles of the 2.4-mile proposed transmission line route is within the City of Antioch.
City of Antioch Tree Preservation Ordinance	Provides for the preservation of certain protected trees in the City of Antioch. Provides for the protection of trees with the goal of retaining as many trees as possible while recognizing individuals' property rights.

SECTION 5

Worker Environmental Awareness Program

As required by CEC Condition of Certification, BIO-5, CCGS LLC will develop and implement a CPM-approved WEAP in which each of its employees—as well as employees of contractors and subcontractors who work on the project site or in any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure—are informed about sensitive biological resources potentially associated with the project. Sensitive biological resources include giant garter snake, western pond turtle, California tiger salamander, California red-legged frog, golden eagle, western burrowing owl, Swainson's hawk, San Joaquin kit fox, American badger, and all birds and nests protected by the MBTA.

5.1 Program Overview

Consistent with the CEC's requirements set forth in Condition of Certification BIO-5, the WEAP will include the following:

- An onsite or training center presentation, developed by or in consultation with the Designated Biologist, in which supporting written material and electronic media are made available to all participants
- Locations and types of sensitive biological resources (shown in Figures 3-1a through 3-1l) on the project site and adjacent areas
- Reasons for protecting sensitive biological resources
- Meaning of various temporary and permanent habitat protection measures
- A list of people to contact regarding further comments and questions about the material discussed in the program
- A discussion of penalties for violation of applicable LORS.
- A training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines
- Confirmation that the WEAP is administered by a competent individual acceptable to the Designated Biologist and the CPM

A copy of the WEAP handbook is included in Appendix A.

5.2 Documentation of Training

At least 60 days prior to the start of any site mobilization, CCGS LLC will submit copies of the proposed WEAP materials to the CPM, CDFG, USFWS, and Conservancy. The WEAP materials include the supporting written materials and script for electronic media (video or

DVD) prepared or reviewed by the Designated Biologist, and resumes of the people administering the program. CCGS LLC will provide in the monthly compliance report the number of people who have completed the training in the prior month and the overall number of individuals who have completed the training to date. At least 10 days prior to site mobilization, CCGS LLC will submit two copies of the CPM-approved training materials and electronic media to the CPM. The signed training acknowledgement forms from the construction personnel will be kept on file by CCGS LLC for a period of at least 6 months after the start of commercial operation. During project operation, signed statements for active project operational personnel will be kept on file for 6 months following the termination of an individual's employment.

SECTION 6

Pre-construction Monitoring and Reporting

6.1 Pre-construction Nesting Bird Surveys (BIO-9)

Pre-construction nest surveys will be conducted for migratory birds' nests if construction activities including tree removal would occur between February 1 and September 15. At all times of the year, noise generating activities (above 60 dBA) will be avoided during dawn and dusk to avoid impacts on birds protected under the MBTA.

Prior to the start of any pre-construction site mobilization, CCGS LLC will provide the CPM and the Conservancy with a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. If nesting birds are observed, mitigation measures identified in Section 7, Avoidance and Minimization Measures, will be applied. Specific guidance for Swainson's hawk and golden eagle is included in Section 7, Avoidance and Minimization Measures and Section III of the PSR (Appendix B).

If active nests are detected during the survey, the report will include a map or aerial photo identifying the location of the nest and will depict the boundaries of the no-disturbance buffer zone around the nest, and a monitoring plan will be submitted to the Conservancy for review and comment and the CPM for approval. Additional copies will be provided to the CDFG and USFWS. Approval of the plan is required before construction may commence. All impact avoidance and minimization measures related to nesting birds have been included in this BRMIMP and will be implemented. Implementation of the measures will be reported in the monthly compliance reports by the Designated Biologist.

6.2 Pre-construction Surveys for Bats (BIO-10)

CCGS LLC will conduct a survey for roosting bats within 200 feet of project activities within 30 days prior to any pre-construction site mobilization, including tree removal. All trees and snags proposed for removal, topping, or pruning will be marked in the field. A qualified bat biologist will conduct a roost assessment of all the marked trees. The biologist will be approved by the CPM. If no suitable roosting habitat is present, no further action is required.

If suitable roosting habitat is present, CCGS LLC will also conduct surveys for roosting bats during the maternity season (March 1 to August 31) within 200 feet of project activities. Trees and other appropriate structures will be surveyed by a qualified bat biologist. Surveys will include a minimum of one day and one evening survey. The biologist must be approved by the CPM. If roosting bats are observed mitigation measures identified in Section 7, Avoidance and Minimization Measures, will be applied.

A written report summarizing the results of the pre-construction survey shall be sent to the CPM and CDFG no less than 15 days prior to the start of pre-construction site mobilization,

which will include documentation of any active roost trees to be removed. The report shall describe survey methods, including the time, date, and duration of the survey, identity and qualifications of the surveyor(s), and a list of species observed, a figure showing roost locations observed, and proposed mitigation and exclusion measures. Mitigation and exclusion measures must be developed in coordination with the CPM and CDFG, and approved by the CPM prior to initiation of the measures or project activities that would disturb the roost site. Within 10 days of removal of trees with roost sites, the project owner shall submit a report describing the results of the exclusion, mitigation measures, and tree removal.

6.3 Pre-construction Surveys for Western Burrowing Owl (BIO-12)

The Designated Biologist or Biological Monitors or other agent approved by the CPM, in consultation with the Conservancy, CDFG, and USFWS, will perform a pre-construction survey of suitable habitat at the project site and a 150-meter (approximately 500-foot) buffer from the perimeter of the proposed footprint (where possible and appropriate based on habitat) within 30 days prior to construction to identify burrowing owls and burrows. Surveys should take place near sunrise or sunset in accordance with CDFG survey guidelines (CBOC, 1993). Breeding season surveys (February 1 to August 31) will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. Non-breeding surveys (September 1 to January 31) will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. All potential burrows or burrowing owls will be mapped. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site will be resurveyed. Survey results will only be valid for the season (breeding or non-breeding) during which the survey is conducted. If burrowing owls are observed mitigation measures identified in Section 7, Avoidance and Minimization Measures and Section III of the PSR (Appendix B) will be applied.

CCGS LLC will submit a report to the CPM, the Conservancy, CDFG, and USFWS at least 10 days prior to pre-construction site mobilization that describes when surveys were completed, observations, and mitigation measures to be implemented. Within 30 days after completion of owl passive relocation and monitoring, and the start of construction-related ground disturbance, CCGS LLC will provide written verification to the CPM, the Conservancy, USFWS, and CDFG that burrowing owl mitigation measures have been completed.

6.4 Pre-construction Surveys for American Badger (BIO-13)

The Designated Biologist or Biological Monitors will perform pre-construction surveys for badger dens in the project area, including areas within 250 feet of all project facilities, utility corridors, and access roads. If dens are detected each den will be classified as inactive, potentially active, or definitely active. Den avoidance, monitoring, and destruction methods will adhere to those impact avoidance and minimization measures prescribed for San Joaquin kit fox (see Condition of Certification BIO-14).

CCGS LLC will submit a report to the CPM and CDFG at least 10 days prior to the start of any pre-construction site mobilization that describes when badger surveys were completed, observations, and mitigation measures to be implemented.

6.5 Pre-construction Surveys for San Joaquin Kit Foxes (BIO-14)

The Designated Biologist or Biological Monitors or other agent approved by the CPM, in consultation with CDFG and USFWS, will perform pre-construction surveys in the project area, in all areas identified in the Conservancy's Planning Survey Report as having suitable breeding or denning habitat, including areas within a 250-foot-radius of all project facilities, utility corridors, and access roads within 30 days prior to pre-construction site mobilization to identify San Joaquin kit fox dens. Adjacent parcels under different land ownership will not be surveyed. Surveys will be conducted in accordance with USFWS survey guidelines (USFWS, 1999). If San Joaquin kit foxes or American badger are observed mitigation measures identified in Section 7, Avoidance and Minimization Measures, and Section III of the PSR (Appendix B) will be applied.

The pre-construction survey will be conducted no more than 30 days prior to the initiation of pre-construction site mobilization on the OGS project site, force main sanitary sewer line, and transmission line corridors. A written report summarizing the results of the pre-construction survey will be sent to the CPM, the Conservancy, CDFG, and USFWS within 5 working days of survey completion and prior to the start of ground disturbance.

6.6 Pre-construction Surveys for Western Pond Turtle (BIO-15)

Pre-construction surveys will be conducted concurrent with the giant garter snake pre-construction surveys. If western pond turtles are observed mitigation measures identified in Section 7, Avoidance and Minimization Measures, will be applied.

CCGS LLC will submit a report to the CPM, CDFG, and the Conservancy at least 10 days prior to the start of any pre-construction site mobilization that describes when western pond turtle surveys were completed, observations, and mitigation measures to be implemented.

6.7 Pre-construction Surveys for Giant Garter Snake (BIO-16)

The Designated Biologist or a representative approved by the CPM, in consultation with the Conservancy, CDFG, and USFWS, must survey the construction area within potential giant garter snake habitat no more than 24 hours prior to the initiation of pre-construction site mobilization activities in the vicinity of the giant garter snake habitat along East Antioch Creek. Another pre-construction survey must be conducted if construction activity ceases for a period of more than 2 weeks. If giant garter snakes are observed mitigation measures identified in Section 7, Avoidance and Minimization Measures, and Section III of the PSR (Appendix B) will be applied.

CCGS LLC will submit a report to the Conservancy, USFWS, CDFG, and the CPM documenting results of pre-construction surveys within 24 hours of commencement of pre-

construction site mobilization activities. CCGS LLC will submit a report to the Conservancy, USFWS, CDFG, and the CPM which will notify the agencies if any giant garter snakes are found within work areas no more than 24 hours after the sighting is made.

SECTION 7

Avoidance and Minimization Measures

7.1 Impact Avoidance Mitigation Measures (BIO-7)

The project design will incorporate all feasible measures that avoid or minimize impacts on the local biological resources, including the following:

- Limit Disturbance Area. Clearly demarcate construction exclusion zones around biologically sensitive areas, including but not limited to, East Antioch Creek and other aquatic resources (Wetland E, Wetland D, and Wetland F), the row of eucalyptus trees (excluding the trees to be removed) and the group of trees growing in the ruderal grassland near the laydown area, and any other sensitive biological resources identified during pre-construction surveys. Vehicles and personnel will be prohibited from entering sensitive habitats. Protection would include wildlife exclusion fencing and/or silt fencing, signs, and sediment control measures installed prior to pre-construction site mobilization. Best management practices (BMPs) will be implemented during all phases of the project. Transmission Line BMPs will be implemented to prevent topsoil from leaving the construction area.

- Minimize Impacts of Transmission Lines. Transmission lines and all electrical components will be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee (APLIC), *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC, 2006) to reduce the likelihood of electrocutions of large birds. Bird flight diverters will also be installed along portions of the transmission line within bird migration routes to reduce the likelihood of avian collisions with the transmission line. Bird flight diverters such as the Swan-Flight Diverter (Tyco Electronics) will be installed on the transmission line in the vicinity of the Wetland E Conservation Easement Area and East Antioch Creek.

- Avoid Use of Toxic Substances. Road surfacing and sealants as well as soil bonding and weighting agents used on unpaved surfaces must be non-toxic to wildlife and plants.

- Minimize Lighting Impacts. Facility lighting will be designed, installed, and maintained to prevent side casting of light toward the project boundaries. Lighting will be shielded, directional, and at the lowest intensity required for safety.

- Avoid Wildlife Pitfalls. At the end of each work day, the Designated Biologist will ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations will be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access. If wildlife become trapped, the Designated Biologist or Biological Monitor will remove and relocate the individual to a safe location. Any wildlife encountered during the course of construction must be allowed to leave the construction area unharmed.

- Avoid Entrapment of Wildlife. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches above ground for one or more days/nights, will be inspected for wildlife before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored, or placed on pipe racks.
- Report Wildlife Injury and Mortality. All inadvertent deaths of special-status species will be reported to the appropriate project representative, including road kill. Species name, physical characteristics of the animal (sex, age class, length, weight), and other pertinent information will be noted and reported in the monthly compliance reports. Injured animals will be reported to CDFG or USFWS and the CPM and CCGS LLC will follow instructions that are provided by CDFG or USFWS.
- Avoid Use of Exotic Pest Plants. Eliminate from landscaping plans any California exotic pest plants of concern as defined by the California Department of Food and Agriculture (CDFA) and California Invasive Plant Council (Cal-IPC).
- Worker Guidelines. During construction all trash and food-related waste will be placed in self-closing containers and removed daily from the site. Workers will not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site will bring firearms or weapons.
- Minimize Impacts to Trees. During construction measures will be implemented to minimize impacts on existing trees to remain on the OGS project site. This includes installation of silt fencing and/or wildlife exclusion fencing to reduce the likelihood of impacts on trees.

All mitigation measures and their implementation methods are included in the BRMIMP and Section III of the PSR (Appendix B). Implementation of the measures will be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, CCGS LLC will provide to the CPM for review and approval a written construction termination report identifying how impact avoidance measures were completed.

7.2 Best Management Practices

The following measures will be adhered to throughout construction:

- A construction SWPPP and CEC-approved Drainage Erosion and Sediment Control Plan (DESCP) will also be prepared that includes temporary BMPs to be implemented during construction activities at all project locations. Temporary BMPs may include revegetation, construction of berms and ditches, and sediment barriers such as straw wattles and/or silt fences to prevent sediment discharges from the site, soil stockpiles, and linear corridors.
- All construction activities will be performed in accordance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activities Water Quality Order 99-08-DWQ (SWRCB, 1999) requiring the implementation of BMPs to control sediment and other pollutants mobilized from construction activities.

- All construction activities will be performed in accordance with a fugitive dust plan.
- Contractor encroachment into environmentally sensitive areas will be restricted (including the staging/operation of heavy equipment or casting of excavation materials). The Designated Biologist will assist the construction personnel in placement of protection measures.
- Where working areas encroach on flowing or dry streams, canals, or wetlands, appropriate physical barriers adequate to prevent the flow or discharge of sediment into these systems will be constructed and maintained between working areas and water features. Erosion control and sediment detention devices (for example, well-anchored sandbag cofferdams, straw bales, or silt fences) may be incorporated into the project design and implemented at the time of construction, as necessary. These devices will be in place during construction activities—and after, if necessary—for the purposes of minimizing sediment impact to the wetlands and input to Waters of the U.S. These devices will be placed at all locations where the likelihood of sediment input exists. A supply of erosion control materials will be kept on hand to cover small sites that may become susceptible to erosion.
- Oily or greasy substances originating from the contractors' operations will not be allowed to enter or to be placed where they would later enter a flowing or dry stream, canal, pond, or wetland. Asphalt and concrete will not be allowed to enter a flowing or dry stream, pond, or wetland.
- Public roadways adjacent to the project site that are used by construction and worker vehicles will be swept at least twice a day or as needed to eliminate tracking and sedimentation.
- All trucks hauling dirt, sand, soil, or other loose materials will be covered and will maintain a minimum of 6 inches of freeboard between the top of the load and the top of the trailer.
- Consistent with the SWPPP/DESCP, covers or dust suppressants will be applied to soil storage piles and to disturbed areas that remain inactive for more than two weeks and during the rainy season.
- Consistent with the SWPPP/DESCP, temporary soil stabilization and erosion control measures will be implemented throughout the defined rainy season (October 15 through April 15). BMPs will be implemented prior to the start of the rainy season and will be inspected prior to forecast storm events, during extended rain events, and after storm events that cause runoff from the construction site.
- Upon completion of the excavation activities, the soil stockpiles will be stabilized and hydro-seeded with native grass mix. After this takes place, CCGS LLC will submit a letter to the CPM and the Conservancy indicating that DuPont will assume responsibility to maintain the stockpiles in accordance with the approved soil stockpile BMP plan. After CPM transfer request approval, the stockpiles will be owned and maintained by DuPont in accordance with all applicable BMPs per SOIL&WATER-1 and Section IV of the PSR (Appendix B)

- During the rainy season, as needed and consistent with the SWPPP/DESCP, temporary erosion controls will be implemented at the draining perimeter of the disturbed soil areas, at the toe of slopes, at storm drain inlets, and at outfall areas.
- Watercourses will be protected to prevent discharge of sediments, debris, and wastes associated with construction activities from entering the watercourses. BMPs could include directing water away from work areas, using covers or platforms to collect debris if working over water, and placing stockpiles away from watercourses.
- Non-stormwater discharges into drainage systems or waterways will be prohibited. Examples of prohibited discharges common to construction activities include the following:
  - Vehicle and equipment washwater, including concrete washout water
  - Slurries from concrete cutting, asphalt grinding, and paving operations
  - Slurries from concrete or mortar mixing operations
  - Runoff from dust control applications of water
  - Sanitary and septic wastes
  - Chemical leaks and/or spills of any kind including, but not limited to, petroleum, paints, cure compounds, etc.
- During work activities, trash that may attract predators will be properly contained, removed from the work site, and disposed of in closed containers that are removed at least once a week. Following construction, trash and construction debris will be removed from work areas and disposed of at an approved waste disposal site.
- Feeding of wildlife by staff and subcontractors will be prohibited.

Following completion of construction, rock material will be removed from laydown areas where topsoil has been removed and crushed rock (gravel) has been placed for construction. Disturbed areas to be restored will be made to reasonably match pre-construction conditions.

7.2.1 Staking and Flagging of Exclusion Zones

As determined necessary by the Designated Biologist, exclusion zones will be identified by signs reading "KEEP OUT Sensitive Resource Area"; the signs will be attached to wooden or metal stakes connected by rope, flagging, or other fencing approved by USFWS and CDFG for any sensitive habitat or for the following:

- Wetlands D, E, F and East Antioch Creek
- Nests and buffer zones of any raptors, including Swainson's hawk, golden eagle and burrowing owl, and other migratory birds
- Suitable habitat for special-status species including the giant garter snake (aquatic habitat), western pond turtle, California red-legged frog, California tiger salamander, American badger, and San Joaquin kit fox
- All groves of trees adjacent to and within project disturbance areas

Each exclusion zone will be sized according to the distances listed in Table 7-1. The zones would be maintained until construction activities have been completed and would then be removed. No work activities will be conducted within the designated exclusion zones as identified by the Designated Biologist.

TABLE 7-1
Exclusion Zones

Biological Resource	Exclusion Zones
Giant garter snake, western pond turtle, California red-legged frog and California tiger salamander	Identified aquatic habitats and adjacent upland habitats located within 200 feet from Antioch Creek and Wetlands D, E, and F
Nesting burrowing owl burrow (February 1–August 31)*	160 feet (Sept 1 – Jan 31) 250 feet (Feb 1 – Aug 31)
Nests of sensitive raptors*	To be determined in consultation with the Conservancy and CPM (Feb 1 – Aug 31)
Swainson's hawk	1000 feet This distance may be lessened only with the prior approval of CDFG, USFWS, CPM, and the Conservancy
Nests of birds protected by the MBTA*	To be determined in consultation with the Conservancy and CPM
San Joaquin kit fox	50 feet for potential dens and 100 feet for active dens or as required by the CPM, USFWS, and the Conservancy

*The exclusion zone would be circular in shape with the radius measured outward from the center of the species' habitat, burrow entrances, or the edge of the plant populations.

7.2.2 Construction Work Windows

All ground-disturbing activities will be restricted to the periods listed in Table 2-1 and to the boundaries listed in Table 7-1 to protect special-status species.

7.2.3 Construction and Operational Lighting

Project construction activities are planned to occur between approximately 7:00 a.m. and 6:00 p.m. from Monday through Friday with weekends and later hours as needed. To the extent feasible and consistent with worker safety codes, lighting required for night construction activities will be directed toward the center of the construction site and will be shielded to prevent light from straying offsite. Task-specific construction lighting will be used to the extent practical while complying with worker safety regulations.

The power plant could be operated 24 hours per day, 7 days per week and will require night lighting for safety and security. The lights will provide illumination for operation under normal conditions, for safety under emergency conditions, and for manual operations during a power outage.

To reduce offsite lighting impacts, lighting at the OGS will be restricted to areas where lighting is required for safety and operation. Exterior lights will be hooded and will be directed onsite to minimize significant light or glare. Low-pressure sodium lamps and

non-glare fixtures will be specified. High-illumination areas not occupied on a regular basis will be provided with switches or motion detectors to light these areas only when occupied.

7.2.4 Construction and Operational Noise

Construction of the OGS is expected to be typical of other power plants in terms of schedule, equipment used, and other types of activities. The noise level will vary during the construction period, depending on the construction phase. Noise and construction activities at the power plant site and/or along the transmission line could temporarily displace wildlife from foraging and nesting in the project area and vicinity. However, any special-status species found nesting during pre-construction surveys will be protected by implementation of the measures listed in Section 6 and Section 7 of this plan. Noise from long-term operations of the power plant is not expected to adversely impact wildlife, as they usually become accustomed to routine background noise.

7.3 Species-specific Measures

7.3.1 Nest Monitoring (BIO-9)

If active migratory bird nests are detected during the pre-construction survey, a no-disturbance buffer zone—protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with the Conservancy and CDFG—will be established and a site-specific nest monitoring plan will be developed for all active nests. Active nests will be monitored on a weekly basis until such time that the Designated Biologist determines that the nestlings have fledged and disbursed or that the nest is otherwise no longer active. Activities that might, in the opinion of the Designated Biologist, disturb nesting activities will be prohibited within the buffer zone until such a determination is made. The Designated Biologist or Biological Monitor will perform surveys in accordance with the following guidelines and the measures outlined in Section III of the PSR (Appendix B):

1. Surveys will cover all potential nesting habitat in the project site and within 150 feet of the boundaries of the plant site as well as the sanitary sewer force main route and transmission line right-of-way. Surveys specifically for nesting Swainson's hawk will be conducted within 1,000 feet of designated disturbance areas that contain appropriate nesting habitat. Surveys specifically for nesting golden eagle will be conducted within 0.5 mile of designated disturbance areas that contain appropriate nesting habitat. If a potential Swainson's hawk nest is located within 1,000 feet of the project site, occupancy may be determined by observation from public roads or by observations of Swainson's hawk activity (for example, foraging) near the project site.

2. At least two pre-construction surveys will be conducted, separated by a minimum 10-day interval. Pre-construction surveys will be conducted no more than 30 days prior to initiation of construction activity. One survey will to be conducted within the 14-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

3. If active nests are detected during the survey, a no-disturbance buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with the CPM in coordination with CDFG, USFWS, and Conservancy) and monitoring plan will be developed. Consultation with the CPM and the Conservancy in coordination with CDFG and the USFWS and a waiver or other required documentation from the Conservancy will be required before any construction occurs within 1,000 feet of a Swainson's hawk nest or 0.5 mile of an active golden eagle nest to ensure that no take of Swainson's hawk or golden eagle occurs during project construction. Nest locations will be mapped using geographic positioning system (GPS) technology and submitted, along with a weekly report stating the survey results, to the CPM.
4. If Swainson's hawk young fledge prior to September 15, construction activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, CCGS LLC can apply to the Conservancy for a waiver of the no-disturbance buffer zone requirements. The waiver must also be approved by the CDFG and USFWS and the CPM must be notified of any request for a waiver.
5. The Designated Biologist will monitor the nest until he or she determines that nestlings have fledged and dispersed. Activities that might, in the opinion of the Designated Biologist, disturb nesting activities (e.g., excessive noise above 60 dBA, especially during steam blowing) will be prohibited within the buffer zone until such a determination is made.

Bird nest locations will be mapped using GPS technology and will be submitted, along with a summary report describing the survey results, to the CPM. The Designated Biologist will monitor the nest as prescribed in this section until he or she determines either that nestlings have fledged and dispersed or that the nest is otherwise no longer active (abandoned).

If active nests are detected during the survey, the report will include a map or aerial photo identifying the location of the nest and will depict the boundaries of the no-disturbance buffer zone around the nest as delineated by the Designated Biologist.

Prior to the start of any pre-construction site mobilization, CCGS LLC will provide the CPM and the Conservancy a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed.

If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest, and a monitoring plan shall be submitted to the Conservancy for review and comment and the CPM for approval. Additional copies shall be provided to the CDFG and USFWS. Approval of the plan is required before construction may commence. All impact avoidance and minimization measures related to nesting birds shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

7.3.2 Minimization and Avoidance Measures for Bats (BIO-10)

If active maternity roosts or hibernacula are found, the trees occupied by the roost will be avoided (not removed) by the project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist will survey (through the use of radio telemetry or other CPM-approved methods, developed in consultation with CDFG) for nearby alternative maternity colony sites. If the bat biologist determines, in consultation with the CPM and CDFG and with the approval of the CPM, that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required and tree removal may occur.

However, if there are no alternative roosts sites used by the maternity colony, provision of substitute roosting bat habitat would be required. This measure would not apply to western red bat because they are solitary and primarily use trees as roosts. If western red bats are present during the breeding season, tree removal would not occur during the breeding season and Item 3 below would be implemented. If active maternity roosts are absent, but a hibernaculum (a non-maternity roost) is present, then exclusion of bats prior to tree removal is required as outlined below.

1. Provision of substitute roosting bat habitat. If a maternity roost will be impacted by the project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony will be provided on, or near, the project site no less than three months prior to the eviction of the colony. Alternative roost sites will be designed and constructed in accordance with the specific bats' requirements and in coordination with CDFG and the CPM. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFG will be notified of any hibernacula or active nurseries within the construction zone.

2. Exclude bats prior to removal of trees with roosts. If non-breeding bat hibernacula are found in the trees to be removed within the construction footprint, the individuals will be safely evicted, under the direction of the qualified bat biologist, by partial dismantling of roost sites (removal of tree limbs) to induce abandonment by bats, or other appropriate measures. Additionally, on the day of tree removal the tree cutters will inspect the trees for bats prior to felling trees in areas that the Designated Biologist is not able to observe from the ground.

3. If an active maternity roost is located in an area affected by project construction, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (prior to March 1) or after young are flying (after August 31) using the exclusion techniques described above.

4. Western red bat specific measures. If an active western bat maternity roost is found in the trees to be removed, tree removal will not occur during the breeding season to avoid disturbing females with non-volant (incapable of flying) young (March 1 through August 31). The leaf litter associated with the tree(s) will be removed during the warm season to prevent western red bats from roosting under the leaf litter during the winter when tree removal will occur. Prior to tree removal, outside of the breeding period, on the day immediately preceding tree removal, any tree to be removed will first be disturbed at the end of the day (after 5:00 pm) by removing the lowest branches that do not have dense clusters of leaves. Trees should be removed the day after the initial

disturbance because bats disturbed under these circumstances are not likely to return to the same tree for day roosting the next day. Additionally, on the day of tree removal the tree cutters will inspect the trees for bats prior to felling trees in areas that the Designated Biologist is not able to observe from the ground.

5. Bat maternity roosts in trees to remain on site. The Designated Biologist will monitor the maternity roost until it is determined that young are capable of flying; activities that might, in the opinion of the Designated Biologist, disturb roosting activities (for example, excessive noise above 60 dBA, especially during steam blowing), will be prohibited within the buffer zone until such a determination is made.

7.3.3 Swainson's Hawk Nest Tree Mitigation and Monitoring (BIO-11)

If pre-construction surveys locate Swainson's hawk nests in trees scheduled for removal, CCGS LLC will implement the following measures to minimize impacts to known Swainson's hawk nests. Tree removal will not occur while the Swainson's hawk nests are active.

1. All active Swainson's hawk nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to project activities will be mitigated by CCGS LLC according to the requirements of the ECCC HCP/NCCP including the following:

    a. Loss of nest non-riparian nest trees will be mitigated by CCGS LLC by, if feasible onsite, planting of 15 saplings for every tree lost with the objective of having at least 5 mature trees established for every tree lost according to the requirements listed below AND

    b. Either pay the Conservancy an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve System for every tree lost according to the requirements listed below, OR

    c. CCGS LLC will plant, maintain, and monitor 15 saplings for every tree lost at a site to be approved by the Conservancy (within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves).

2. CCGS LLC will meet all ECCC HCP/NCCP requirements for all planting options which include the following:

    a. Tree survival will be monitored at least annually for 5 years, then every other year until year 12. All trees lost during the first 5 years will be replaced. Success will be reached at the end of 12 years if at least 5 trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least 3 years without irrigation.

    b. Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk.

    c. Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting

habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site).

d. Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk in the inventory area and as close as possible to high quality foraging habitat.

All mitigation measures and their implementation methods are included in the BRMIMP and implemented. Implementation of the measures will be reported in the monthly compliance reports by the Designated Biologist. If trees with known nests are to be removed while nests are not active, a written report summarizing the results of the pre-construction survey will be sent to the CPM, the Conservancy, CDFG, and USFWS no less than 15 days prior to the start of ground disturbance, which will include documentation of any known nest trees to be removed.

Within 30 days after completion of project construction, CCGS LLC will provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed. Additional copies will be provided to the Conservancy, CDFG, and USFWS. The report will include written verification that any compensation fees for of loss of nest trees have been paid to the Conservancy. Annual reports will be submitted to the CPM and the Conservancy that document compliance with the ECCC HCP/NCCP requirements for planting and the success of any plantings. Additional copies will be provided to CDFG and USFWS.

7.3.4 Western Burrowing Owl Impact Avoidance and Minimization Measures (BIO-12)

CCGS LLC will implement the following measures to manage the construction site, and related facilities, in a manner to avoid or minimize impacts to breeding and foraging burrowing owls.

The Designated Biologist or Biological Monitors or other agent approved by the CPM, in consultation with the Conservancy, CDFG, and USFWS, will perform a pre-construction survey of suitable habitat at the project site and a 150-meter (approximately 500-foot) buffer from the perimeter of the proposed footprint (where possible and appropriate based on habitat) within 30 days prior to pre-construction site mobilization to identify burrowing owls and burrows. Surveys should take place near sunrise or sunset in accordance with CDFG survey guidelines (CBOC, 1993). Breeding season surveys (February 1 to August 31) will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. Non-breeding surveys (September 1 to January 31) will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. All potential burrows or burrowing owls will be mapped. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site will be resurveyed. Survey results will only be valid for the season (breeding or non-breeding) during which the survey is conducted. If burrowing owls are found onsite, the following will be implemented:

1. During the breeding season (February 1 through August 31), all nest sites that could be disturbed by project construction will be avoided during the remainder of the breeding

season or while the nest is occupied by adults or young as determined by the Designated Biologist.

2. During the breeding season (February 1 through August 31), occupied burrows in designated construction areas or within 250 feet of designated construction areas will not be disturbed unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.
3. During the non-breeding season (September 1 to January 31), occupied burrows in designated construction areas or within 160 feet of designated construction areas will not be disturbed, if possible.
4. If occupied burrows for burrowing owls are not avoided during the non-breeding season, owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (CDFG, 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

7.3.5 Avoid Harassment or Harm to San Joaquin Kit Foxes and American Badger (BIO-13 and 14)

If San Joaquin kit fox or American badger and/or suitable dens are found onsite or within the transmission line corridor CCGS LLC will implement the following measures:

Exclusion Zones

If dens are identified in the survey area outside of the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones around the kit fox dens would have a radius measured outward from the entrance or cluster of entrances. The following radii are minimums, and if they cannot be followed, the CPM, the Conservancy, USFWS, and CDFG will be contacted:

- Potential den: 50 feet
- Known den: 100 feet
- Natal/pupping den (occupied and unoccupied): the CPM, the Conservancy, USFWS, and CDFG will be contacted

Known den: To ensure protection, the exclusion zone will be demarcated by fencing or stakes and flagging that encircles each den at least 100 feet from den entrance and does not prevent access to the den by kit foxes. Exclusion zones will be demarcated with stakes and flagging and will be maintained until all construction-related or operational disturbances have been terminated. At that time, all fencing or stakes and flagging will be removed to avoid attracting subsequent attention to the dens.

Potential den: Placement of 4 to 5 flagged stakes at least 50 feet from the den entrance(s).

Construction and other project activities will be prohibited within these exclusion zones.

Destruction of Dens

Disturbance to San Joaquin kit fox dens will be avoided to the maximum extent possible. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed.

Potential, known, and/or occupied kit fox dens will not be destroyed unless CCGS LLC has take authorization from USFWS, which would be provided through participation in the ECCC HCP/NCCP.

Potential, Known, and/or Occupied Dens: Known dens occurring within the footprint of the activity will be monitored for 3 days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den will be destroyed immediately to preclude subsequent use. If a natal or pupping den is detected in the survey area, the CPM, USFWS, and CDFG will be notified immediately. The den will not be excavated until the pups and adults have vacated and then only after further consultation with CPM, in coordination with the Conservancy, USFWS and CDFG.

If kit fox activity is observed at the den during this initial monitoring period, the den will be monitored for at least 5 consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity.

For dens other than natal or pupping dens, use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities. CEC staff, USFWS, and CDFG encourage hand excavation, but realize that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Destruction of the den would be accomplished by careful excavation until it is certain that no kit foxes are inside. The den would be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation a kit fox is discovered inside the den, the excavation activity will cease immediately and monitoring of the den as described above would be resumed. Destruction of the den may be completed when in the judgment of the biologist the animal has escaped from the partially destroyed den.

If any den was considered unoccupied, but upon commencement of den destruction determined to be occupied, then destruction will cease and the CPM, USFWS, and CDFG will be notified immediately.

7.3.6 Western Pond Turtle and Giant Garter Snake Avoidance and Minimization Measures (BIO-15 and 16)

The following measures, developed by the CEC and in cooperation with the Conservancy will be implemented to avoid and minimize impacts to western pond turtle and giant garter snake:

1. The Designated Biologist or a representative approved by USFWS and the CPM will perform concurrent pre-construction surveys in areas identified in the Conservancy's Planning Survey Report as having suitable habitat for western pond turtle and giant garter snake and 200 feet of adjacent upland as measured from the outer edge of each bank. Surveys will document the extent of suitable habitat in the project area, including all project facilities, utility corridors, and access roads, and document any sighting of western pond turtle and giant garter snake.
2. Construction within 200 feet of aquatic features (East Antioch Creek) or within suitable giant garter snake habitat must follow USFWS construction guidelines. CCGS LLC will minimize all construction within 200 feet of aquatic features with suitable giant garter snake habitat to the greatest extent possible. All construction that must occur within 200 feet of aquatic features with potential giant garter snake habitat will occur within the giant garter snake active period (May 1 to October 1).
3. Wildlife exclusion fencing will be installed to protect the riparian habitat along East Antioch Creek in the vicinity of the intersection of the transmission line ROW.
4. USFWS will approve in writing any construction work within giant garter snake habitat that must be conducted outside of this time window (October 1 and April 30).

7.3.7 California Tiger Salamander Impact Avoidance and Minimization Measures (BIO-17)

The following measure, developed by the CEC and in cooperation with the Conservancy will be implemented to avoid and minimize impacts on California tiger salamander:

- Wildlife exclusion fencing and silt fencing will be installed to protect Wetland D, Wetland E, and Wetland F. "Sensitive Resource Area" signage will also be installed at each wetland prior to pre-construction site mobilization.

7.3.8 California Red-legged Frog Impact Avoidance and Minimization Measures (BIO-18)

The following measure, developed by the CEC and in cooperation with the Conservancy will be implemented to avoid and minimize impacts on California red-legged frog:

- Wildlife exclusion fencing will be installed to protect the riparian habitat along East Antioch Creek in the vicinity of the intersection of the transmission line ROW as described under giant garter snake avoidance and minimization measures prior to pre-construction site mobilization.

SECTION 8

Construction Monitoring and Reporting Responsibilities

8.1 Scope of Monitoring

The intensity and frequency of monitoring depends on the biological resources in and near the work area and the kinds of activity underway. When trenches and holes are open, large volumes of supplies are deployed for installation, construction traffic is very heavy, and/or sensitive resources are common in the area, full-time environmental compliance monitoring would be necessary. During such periods, daily or more frequent inspections would include the following:

- Evaluate the fencing and staking of exclusion zones protecting special-status species. No work activities would be conducted within the designated exclusion zones.
- Ensure that straw wattles or silt fences are in place where appropriate.
- Ensure that all ground-disturbing activities are restricted to the periods listed in Table 2-1 to protect special-status species.
- Monitor special-status species as specified by CEC conditions of certification.
- Monitor to determine that disturbance or removal of vegetation within the agreed work area would not exceed the minimum necessary to complete operations. Precautions would be taken to avoid other damage to vegetation by people or equipment. Where possible, roots and stumps of native species would be left to facilitate re-growth and tree and brush removal would occur during periods when no nesting birds are present.
- Ensure that vehicles would not be operated in surface water. Except within agreed (fenced or flagged) work areas, vehicles would not be operated where riparian or aquatic species of plants are present.
- Ensure that fill would be limited to the minimum amount necessary to accomplish the agreed activities. Excess fill would be moved offsite at project completion.
- Confirm that raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to fish or wildlife resulting from project-related activities would be prevented from contaminating the soil or entering the Waters of the State.
- Confirm that all project-generated debris, building materials, and rubbish would be removed from areas where such materials could be washed into the canals, ditches, and/or drains.

- Verify that any equipment or vehicles driven and/or operated adjacent to the canals, ditches, and staging/storage and refueling areas for equipment and materials would be located outside of the waterways.
- Verify that all excess project materials are removed from the project site.
- Confirm that transmission lines and towers would be designed with suitable spacing between conductor wires to minimize risk of electrocution for birds.
- Confirm whether all construction and operation workers in the project area have completed an employee orientation and WEAP program. Training would be offered at the start of work. Specific details of the program are included in the OGS WEAP.
- Evaluate compliance with installation of escape ramps or covers to prevent entrapment of wildlife.
- Confirm that construction personnel have inspected all trenches for entrapped wildlife each morning prior to onset of construction before such holes or trenches are filled. Any animals so discovered would be allowed to escape voluntarily, without harassment, before construction activities resume, or would be removed from the trench or hole by the Designated Biologist or Biological Monitor and allowed to escape unimpeded.
- Confirm that ground-disturbing activities along transmission lines and pipelines would be limited to daylight hours, unless otherwise authorized.
- Verify that any employee who inadvertently kills or injures a listed species or who finds any such animal dead, injured, or entrapped, would be required to report the incident immediately to the Designated Biologist/Biological Monitor. In the case of entrapped listed animals, escape ramps or structures would be installed immediately if possible to allow the subject animal(s) to escape unimpeded.
- Contact USFWS and/or CDFG following the resolution of any sensitive species emergency regarding appropriate protection measures for listed species and their habitat that would be implemented during cleanup activities. The DB will contact the USFWS and/or CDFG.

Although the inspections listed below may be done whenever a monitor is in the construction area, inspections would be conducted at least once a week to confirm that the following are being performed:

- Weekly compliance inspection reports are maintained by OPC for review by the Conservancy, USFWS, CEC, and CDFG upon request.
- Exclusion zone flagging and fencing is in place where needed and has been removed in areas where construction is completed.
- Construction area boundaries are clearly delineated by fencing or staking and flagging and/or rope or cord.
- Equipment storage and parking are confined to the designated areas.
- All food-related trash items are being disposed of in closed containers and are being removed at least daily from the site.

- Deliberate feeding of wildlife is not occurring.
- No firearms, except for those carried by security personnel, are on the project site.
- No pets are on the project site.

8.2 Conflict Resolution

Remediation of noncompliance issues will require the cooperation of the Designated Biologist, Environmental Compliance Manager, Resident Engineer, Construction Inspector, Contractor Supervisor, and Crew Foreman. Through this cooperative effort, all involved parties would become aware of the issues, remediation measures, and reasons for future avoidance of similar and related noncompliance issues. However, to ensure that these issues are given the priority that they deserve, all incidences of noncompliance as well as other problems that may become noncompliance issues will be discussed at the weekly project status meeting. Furthermore, the Designated Biologist will take every opportunity to discuss sensitive species biology and protection with contracting personnel.

8.3 Summary of Reporting Responsibilities of Construction Monitoring

Monthly monitoring reports will be prepared by the Designated Biologist and will be submitted to the OGS Environmental Compliance Manager for transmittal to the CEC CPM. In addition, the CPM will be notified immediately, in writing, if monitoring reveals that any of the protective measures were not implemented during the period indicated in this program, or if it appears that measures will not be implemented within the time period specified. The CPM will also be notified if any of the protective measures are not providing a level of protection that is appropriate for the impact that is occurring. The CPM will be notified of recommendations, if any, for alternative protective measures.

The first monthly report will be prepared within one month of the beginning of surface-disturbing activities. Subsequent reports will be prepared for any month during which the Designated Biologist determines that monitoring is necessary for the protection of sensitive biological resources. Each monthly compliance report will include the following information:

- Areas and activities monitored during the reporting month
- Summary of the BRMIMP measures that were implemented
- Incident Reports and resolution of each reported situation
- Species relocated, killed, or injured during project construction; the dates, times, and locations of capture, mortality, or injury; and descriptions of relocation sites
- Construction and monitoring activities planned for the following month, along with anticipated problems
- Methods used to resolve noncompliance issues, including agency and CCGS LLC personnel contacted

8.4 Reporting of Injured Wildlife

Any employee who inadvertently kills or injures a wildlife species, or who finds any animal either dead, injured, or entrapped, is required to report the incident immediately to the Designated Biologist. Injured special-status animals will be reported to CDFG and USFWS. CCGS LLC will follow instructions that are provided by CDFG and USFWS for special-status species. The Designated Biologist has identified the Lindsay Wildlife Museum Animal Hospital (located at 1931 1st Avenue, Walnut Creek, CA, 94597, Phone (925) 935-1978.

In the case of entrapped listed animals, escape ramps or structures would be installed immediately, if possible, to allow the subject animal(s) to escape unimpeded.

In the event that an animal is found dead on the project site and the species of animal is classified as threatened or endangered, the Designated Biologist would immediately (within 24 hours) notify USFWS (Endangered Species Division, Sacramento Valley Branch office at 916-414-6645), CDFG (CDFG North Central Region at 916-358-2900 or the State Dispatch at 916-445-0045), the CPM, and the Conservancy by phone or in person and would document initial notification in writing within two working days of the finding of any such animal(s). Notification would include the date, time, location, species, and circumstances of the incident.

Any listed species found dead or injured would be delivered to the USFWS, CDFG, or designated veterinarian immediately for care, analysis, or disposition.

8.5 Spill Response Emergency Procedures

In the event that a spill or accident occurs adjacent to or in a sensitive habitat and the Designated Biologist or Biological Monitor is not onsite, the following will occur:

- Construction activities in the immediate vicinity will halt
- The site or area foreman will be notified of the incident
- The Designated Biologist or Biological Monitor will be contacted immediately

The Designated Biologist will assess impacts to the site-specific sensitive resources, determine whether damage is significant, develop the necessary mitigation measures, and if the Designated Biologist deems necessary, contact the CPM and appropriate agencies responsible for consultation. The CPM will be notified every time a spill or accident occurs in or adjacent to a sensitive habitat.

SECTION 9

Post-construction Monitoring and Reporting Responsibilities

According to Condition of Certification BIO-6, within 30 days after completion of project construction, CCGS LLC will provide to the CEC CPM for review and approval a written construction termination report. Additional copies shall be provided to the Conservancy, CDFG, and USFWS. This report will identify how conditions of certification and protection measures for biological resources have been completed. The Designated Biologist will conduct a post-construction site visit once all restoration activities are complete to determine whether all implemented protection measures related to biological resources were successful. The results of the inspection will be included in the post-construction report (BIO-6).

Upon completion of construction, all areas subject to temporary disturbances will be subject to post-construction cleanup and restoration by the contractors. Cleanup will consist of removal of gravel, stakes, lathes, temporary erosion control devices, flagging, barrels, cans, drums, accidental spills, and any other refuse generated by construction. Reclamation will consist of recontouring soil surfaces to natural lines and grades. All areas subject to temporary ground disturbances will be re-contoured to natural lines and original grade without disruption to adjacent undisturbed habitat.

Although the construction area will be kept cleared of trash, food-related items, construction debris, and other litter during the entire construction period, a post-construction inspection and cleanup will be conducted. The Designated Biologist will accomplish the inspection within 15 days of completion of construction in each construction area. All construction debris, unneeded signs, and other trash and litter will be removed within 15 days of the inspection. The Designated Biologist will be responsible for removing all stakes, lathes, flagging, and signs associated with protected areas; the construction contractor will be responsible to remove all other debris. Disposal of all debris will be at an approved waste facility.

SECTION 10

Implementation Monitoring/Verification Program

Verification of mitigation will be documented on daily monitoring logs, in monthly and annual compliance reports, and in the final BRMIMP Summary of Mitigation Measures for the OGS project that will be submitted to the CEC within 30 days after completion of construction. Compliance of each mitigation measure will be monitored by the Designated Biologist according to the schedule in Table 10-1 and will be documented on compliance verification forms or daily logs for each site visit. The daily forms will record where, when, and how construction activities are performed and whether compliance was met. Monthly compliance reports will summarize the activities for each month, whereas, the annual compliance reports will summarize activities for the previous year. The summaries will include a discussion of whether the mitigation measures were successful, compared with the success criteria where applicable. The summaries will also include all plan modifications and remedial measures taken if the success criteria were not met during the mitigation monitoring process. Table 10-1 outlines the performance standards or success criteria for each mitigation measure.

TABLE 10-1
Monitoring Tasks and Criteria that Determine Successful Implementation of Mitigation Measures
Oakley Generating Station Project

Mitigation Measure	Monitoring Type	Monitoring Duration	Monitoring Frequency	Success Criteria
Pre-construction surveys	Direct observation	Throughout construction	As-needed, dependent on targeted species	Summary in monthly compliance reports
Construction zone limits	Direct observation	Throughout construction	As-needed at power plant site full time monitoring required when working near East Antioch Creek	No adverse effects to surrounding habitats or special status species
Worker Environmental Awareness Training	Direct observation of attendance	Throughout construction for new employees	At start of project construction	Signed affidavits, to be included with monthly compliance reports
Special-status species protection	Direct observation	Throughout construction	As-needed at power plant site; fulltime at full time monitoring required when working near East Antioch Creek	No adverse effects to special-status species
Post-construction restoration of temporarily affected work areas	Direct observation	Throughout construction	As work is completed	Disturbance areas are adequately restored to pre-project conditions

TABLE 10-1
Monitoring Tasks and Criteria that Determine Successful Implementation of Mitigation Measures
Oakley Generating Station Project

Mitigation Measure	Monitoring Type	Monitoring Duration	Monitoring Frequency	Success Criteria
Pre-construction surveys	Direct observation	Throughout construction	As-needed, dependent on targeted species	Summary in monthly compliance reports
Construction zone limits	Direct observation	Throughout construction	As-needed at power plant site full time monitoring required when working near East Antioch Creek	No adverse effects to surrounding habitats or special status species

SECTION 11

Facility Closure

Permanent and unexpected permanent and temporary closure scenarios are addressed in this section. Permanent closure will occur at the end of the facility's operational phase, but unexpected permanent or temporary closures may be necessary in the event of disastrous events or unfavorable economic conditions.

As required by the CEC General Conditions, a permanent closure plan will be prepared 12 months prior to closure activities. It will include special-status species take avoidance and mitigation requirements applicable to the sensitive biological resources in the area at that time. The plan will also include reclamation of areas where facilities will be removed. Measures similar to those contained in Sections 6, 7, 8, 9, and 10, along with other appropriate measures, will be included in the closure plan. The permanent closure plan would be subject to approval by the responsible agencies.

In the case of unexpected permanent or temporary closure, measures to protect biological resources will be needed only if surface disturbances or releases of harmful materials occurred during a disaster. If such an event occurs, CCGS LLC would consult with responsible agencies to plan cleanup and mitigation of impacts to biological resources.

SECTION 12

Modifications to the BRMIMP

CCGS LLC will notify the CEC CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval. Any changes to the approved BRMIMP will also be approved by the CPM and will be submitted to the USFWS, CDFG, and Conservancy to ensure that no conflicts exist. The following list of items is required when modifications to the BRMIMP and CPM approval are necessary:

1. Identify changes considered necessary:

    a. Describe the proposed change.
    b. Describe the reasons for the change.
    c. Describe how the change will be implemented.

2. Determine whether CEC condition of certification/project amendment is required (if so, requires approval of full Commission):

    a. Contact CPM.
    b. Notify other permitting agencies and interested parties.

SECTION 13

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Appendix A
Worker Environmental Awareness Program Handbook

CCGS LLC

Oakley Generating Station (OGS)

Worker Environmental Awareness Program
Handbook for Biological, Cultural, &
Paleontological Resources

CH2MHILL®

2485 Natomas Park Drive
Sacramento, California 95833

Table of Contents

Contra Costa Generating Station LLC Commitment

Contra Costa Generating Station LLC (CCGS) is committed to protecting environmental resources during construction and operation of the Oakley Generating Station (OGS), and the project design has been modified to ensure their protection. CCGS and the California Energy Commission (CEC) have developed protection measures to minimize project impacts. Knowledge and practice of these measures is the responsibility of all onsite personnel and violation of these measures could result in costly project delays or shutdowns, and also serious consequences for those who have done so.

This handbook provides an overview of the sensitive biological, cultural, and paleontological resources that construction of the OGS may affect. It also includes a description of the laws, protection measures, responsibilities, and penalties associated with those resources and this project. This book also provides information on best management practices for stormwater.

This handbook is part of the Worker Environmental Awareness Program (WEAP) for the OGS. It is your guide to understanding your responsibilities, taking the proper precautions on the job, and contacting the appropriate persons when you have questions. There will be Biological, Cultural, and Paleontological monitors on the construction site to help you, so always ask before you act. With your cooperation, the OGS construction project will run smoothly and will be successful.

REMEMBER

Cooperation and communication are key to success. Always ask before you act.

Environmental Laws, Regulations, and Penalties

Many of the resources found in the project area are protected by state and federal laws.

Federal Endangered Species Act: Provides protection for federal-listed threatened and endangered plant and animal species. It also prohibits the destruction of habitat critical to their recovery.

California Endangered Species Act: Similar to the federal act, it prohibits the take of state-listed endangered and threatened wildlife.

Migratory Bird Treaty Act: Prohibits the take of migratory birds. "Take" is defined as to pursue, hunt, take, kill, capture, or harass. This includes eggs, nests, and feathers of any bird, which are fully protected.

California Fish and Game Codes: Prohibits take of protected plants and animals in California and protects areas designated as significant habitat.

The Clean Water Act: Oversees protection of jurisdictional wetlands and waterways.

The following agencies have regulatory authority in the area and will also monitor construction activities. They could be onsite at any time:

- City and County Officials
- California Energy Commission
- East Contra Costa County Habitat Conservancy
- California Department of Fish and Game
- Central Valley Regional Water Quality Control Board
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency

REMEMBER

Stay out of exclusion zones. They protect sensitive habitats.

Violation of state and/or federal environmental laws can result in penalties, including fines as high as $100,000 and/or up to one year in jail.

Violations can involve corporate and individual penalties.

Violations can result in stop work orders and construction delays.

Biological Resources

The OGS project site and vicinity include habitat for protected plants and wildlife. These habitats include agricultural land, wetlands, drainages, grasslands, and trees. These habitats are home to endangered or threatened birds, reptiles, amphibians, and mammals. Remember that all forms of wildlife are protected by law on this project; it is your responsibility as an employee of the OGS project to ensure that all areas that have not been previously disturbed must be surveyed by the Designated Biologist and Biological Monitor prior to disturbance.

Designated Biologist and Biological Monitor

The OGS Designated Biologist and Biological Monitor are responsible for implementing the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), ensure that all permit requirements are followed, and provide direct assistance in avoiding impacts on natural resources. **The Designated Biologist has the authority to stop work if activities do not comply with protection measures outlined in the project's BRMIMP.**

Duties of the Designated Biologist:

- Advise Site Superintendent or Construction Manager on the implementation of the CEC's biological resources Conditions of Certification.
- Prepare and supervise the implementation of this WEAP.
- Supervise or conduct monitoring and other biological resource compliance efforts, including implementation of protection measures.
- Consult with natural resource agencies on potential biological issues and remedial actions.
- Advise project construction workers if there are changes in the environmental protection plans.
- Notify OGS staff and the CEC Compliance Project Manager of non-compliance with any condition and the corrective actions taken, and advise the construction and operations manager when to stop and resume construction in sensitive areas.

- Maintain written records for inclusion in monthly compliance reports.
- Submit monthly and annual compliance reports, if necessary, to the CEC.
- Supervise and support the efforts of the Biological Monitor.
- Coordinate with wildlife agencies for compliance with protection measures.

The Biological Monitor will be onsite during earthwork activities and will clear areas before any and all surface disturbance begins. **The Biological Monitor has the authority to stop work if any violation of mitigation measures occurs in the project area. Mitigation measures for the project are described in the BRMIMP, available for review from the OGS Environmental Compliance Manager.**

Duties of the Biological Monitor:

- Supervise construction in sensitive habitat areas to monitor compliance with mitigation measures.
- Advise OGS staff on how best to avoid adverse impacts on biological resources.
- Assist the Site Superintendent in preparing construction zone limits in sensitive habitats—including flagging and signage.
- Immediately notify the Designated Biologist, OGS staff, and the OGS Environmental Compliance Manager of non-compliance and the corrective actions taken, and advise the construction and operations engineer when to resume construction.
- Notify onsite personnel if there are any changes in the plan.

REMEMBER

The Designated Biologist and Biological Monitor have the authority to stop work if construction activities are non-compliant.

Environmental Impacts and Mitigation Measures

Minimizing Construction Impacts:

- Open trenches must have escape ramps so animals such as frogs, snakes, and squirrels won't get trapped.
- Minimize the need for restoration by minimizing disturbance.
- Avoid disturbing nesting birds by staying 200 feet away, or other designated buffer as delineated by the Designated Biologist. Have the Biological Monitor clear the area before you begin any and all work.
- Project construction boundaries are positioned to protect wetlands and sensitive biological resources, and must not be crossed at any time.

Mitigation Measures as Conditions of Certification:

- Biological Monitors must be onsite or on call during construction.
- Construction exclusion zones must be clearly marked to protect sensitive habitats. Cyclone, silt, and orange fencing with Keep Out signs mark your access boundaries—be aware of your limits.
- Pre-construction surveys must be conducted by the Biological Monitor prior to all ground disturbances.
- Erosion control and revegetation will be implemented in all construction areas.
- Impacts on biological resources will be monitored and reported to the appropriate agencies.
- During construction, all pipes, culverts, or similar structures with a diameter of 3 inches or greater that are stored at the construction site overnight must be thoroughly inspected for wildlife before using or moving the equipment or materials.

Nesting and Migratory Birds

The OGS project site and vicinity supports various nesting opportunities for native **raptors** such as **hawks** and **owls**, **waterfowl**, and **songbirds**. The birds, nests, eggs, and young are all protected under California Fish and Game laws and by the Federal Migratory Bird Treaty Act (MBTA).

Waterfowl and **migratory birds** such as geese, ducks, herons, shorebirds, and cranes use the Pacific Flyway as a major winter migration route and may be observed using the project site or surrounding areas. If dead or injured animals are found, contact the Designated Biologist, Biological Monitor, Environmental Compliance Manager, or your foreman so that the injured or dead animal can be correctly cared for.

Work areas will be surveyed for nesting birds prior to and during construction. If an active nest is found, the immediate area will be temporarily off limits. **Be sure to get clearance from the Biological Monitor before initiating work in previously undisturbed areas, including gravel pads and equipment yards.**

The **Swainson's hawk** is an example of a protected raptor that might nest or forage near or on the project site. Typical adult Swainson's hawks have bright white wing linings contrasting with dark leading wing feathers, a narrow brown chestband between a white throat and white belly, and a gray tail above that is often white and streaked at the base. This bird is listed as Threatened under the California Endangered Species Act. This species is a long-distance migrant, spending winters as far south as South America and returning to California in early spring. In the spring and summer, Swainson's hawks are found throughout the agricultural areas of the Central Valley, including Contra Costa County. They often nest in trees adjacent to crop fields (such as alfalfa, hay, and row crops) and feed on rodents and insects.

Swainson's Hawk

Swainson's hawk, white-tailed kite, red-tailed hawk and northern harrier have been identified in the project vicinity and hawks may forage on or near the site. If you see an injured hawk or nest, report it immediately to the Designated Biologist or Biological Monitor. If a Swainson's hawk nest is identified within 1,000 feet of the site, construction may not occur within the area between the construction corridor and the nest tree. If another species of hawk, such as the white-tailed kite or red-tailed hawk, nests on or near the project site, there will be a setback from the nest tree that will be determined in consultation with the CEC and the Conservancy. In the event a raptor nest is identified within the project boundaries, orange protective fencing and "KEEP OUT SENSITIVE RESOURCE" signage will be placed around the construction exclusion zone. This protection measure will be used to protect the nests of hawks and other birds.

White-Tailed Kite

The **white-tailed kite** is a white hawk with black shoulder patches. It is a Fully Protected bird in California—so any harm or harassment of this species is against the law. This species hovers while foraging for rodents and other prey.

Burrowing Owl

The **western burrowing owl**, is considered a sensitive species and inhabits dry open grasslands and typically nests in small burrows that have been constructed and abandoned by burrowing mammals, such as ground squirrels or badgers. Burrowing owls are year-long residents; their breeding season is late February through August. Juvenile and adult burrowing owls have been killed by destruction, plugging, and flooding of occupied burrows; collisions with motor vehicles and construction equipment; predation by native and domestic animals; exposure to certain insecticides and rodenticides; and shooting.

Golden Eagle

Golden eagles, a California Department of Fish and Game Fully Protected Species, may use the OGS site to hunt or forage. The golden eagle is protected under the MBTA and the Bald and Golden Eagle Protection Act.

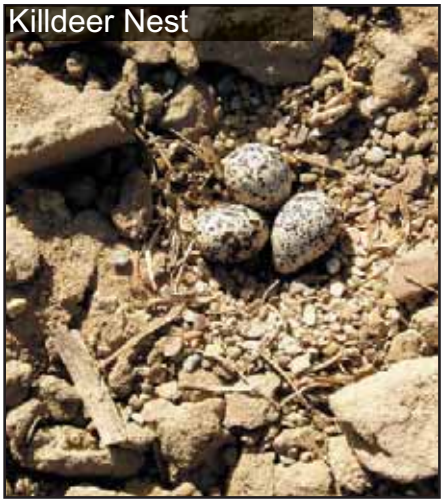
Loggerhead Shrike

Loggerhead shrikes are a federal species of concern and a California Species of Special Concern. Shrikes are often found in open terrain with well spaced perches or lookout points like the OGS site. This species will often impale its prey on barbed wire or thorn bushes.

Northern Harrier

©Dan Pancamo

The **Northern Harrier** is a California Department of Fish and Game Species of Special Concern which inhabits wetlands and annual grasslands and nests on the ground.


Killdeer Nest

Most birds are busy building nests, laying eggs, and raising young in the early spring through mid-summer.

Not all nests are in trees. Many birds build their nests in man-made structures and some, such as burrowing owls, northern harriers, and killdeers make nests on the ground or in burrows. Construction sites can actually provide unlikely nesting opportunities for a variety of bird species. A killdeer nest, for instance, is usually little more than a scrape on the ground in a large barren area—making a cleared construction site a perfect nesting opportunity. Killdeer eggs can be difficult to see but if you notice lots of killdeer activity in an area, a nest is probably close by. After hatching, the killdeer chicks are on the move, like chickens and ducklings. The chicks can be difficult to see, but they usually stay close to their parents. When threatened, the chicks will freeze making them even more difficult to see and avoid.

Other birds, like mourning doves and house finches, may build their nests directly in or on site structures or equipment. If you observe birds building nests in equipment or on the ground, contact the Biological Monitor immediately.


Mourning Dove Nest

Except for a limited few, nearly all birds are protected by federal and state laws. Destruction of nests or eggs is a violation of the MBTA and California Fish and Game codes. An offense is considered criminal and can include substantial fines and possible jail time.

REMEMBER

All nests shall be avoided and reported to the Designated Biologist, Rick Crowe at (916) 296-5525.

Amphibians and Reptiles

Giant Garter Snake


Giant Garter Snake

The giant garter snake is listed as Threatened under the federal and state endangered species acts. Giant garter snakes are found in aquatic habitats such as rice fields, canals, and slow-moving streams during the spring to fall active season (May 1 to September 30). During their winter dormancy period (October 1 to April 30), giant garter snakes typically occupy small mammal burrows and soil crevices. Impacts on giant garter snake habitat can occur near slow-moving streams, freshwater marsh, and other aquatic habitat and associated upland habitat. Increased traffic due to OGS construction could have a significant adverse impact on individual snakes from road kills. Snakes may cross roads and may also use them as a basking surface during their active period, which is usually May 1 through September 30. Giant garter snake habitat has been identified along the transmission line right-of-way in the vicinity of East Antioch Creek.

To mitigate potential impacts on the giant garter snake, the following avoidance and mitigation measures will be followed:

- Construction affecting potential giant garter snake habitat will be conducted between May 1 and September 30 in order on avoid impacts to snakes in crevices during the winter dormancy period.
- No construction work will be conducted during the winter dormancy period (October 1 through April 30) in potential giant garter snake habitat.
- Dewatering of the immediate work area (e.g., using diversion pipe) may be necessary in the event of unexpected groundwater. During dewatering, the contractor will ensure that stream flows up- and downstream of the work area are maintained at all times.
- Biologists will inspect work areas before construction activities begin, and will have the authority to stop work if a giant garter snake is encountered during construction.
- Temporarily disturbed areas will be returned to pre-construction conditions.
- Speed limits of 15 miles per hour will be imposed for traffic on all project controlled roads.

- The Biological Monitor will be present during any new ground-disturbing activities. The transmission line construction personnel must inspect and examine any open excavations prior to the start of construction each morning. If a giant garter snake is observed, contact the Designated Biologist, Biological Monitor, or the Environmental Compliance Manager immediately.

Western Pond Turtle

The western pond turtle is a California Department of Fish and Game Species of Special Concern. Western pond turtles occur in both permanent and intermittent waters, including marshes, streams, rivers, ponds, lakes, and irrigation canals. They favor habitats with large amounts of emergent logs or boulders where they congregate to bask in the sun. Despite their name, pond turtles regularly use upland terrestrial habitat, most often during nesting or overland dispersal. Identified western pond turtle habitat is along the transmission line right-of-way in the vicinity of East Antioch Creek.

Western pond turtle is known to occur in the project vicinity. To avoid potential adverse effects to the turtle, the following avoidance and minimization measures will be implemented during construction:


Western Pond Turtle

- Construction affecting western pond turtle habitat will be conducted between May 1 and September 30 in order to avoid impacts on turtles in crevices or underground burrows during their winter dormancy period.
- Biologists will inspect work areas before construction activities start, and will have the authority to stop work if a western pond turtle is encountered during construction.
- The Biological Monitor will be present during any new ground-disturbing activities. The transmission line construction personnel must inspect and examine any open excavations prior to the start of construction each morning. If a western pond turtle is observed, contact the Designated Biologist, Biological Monitor, or the Environmental Compliance Manager immediately. The Biological Monitor will transport the turtle out of the project area and release it into suitable habitat.

California Tiger Salamander

California tiger salamander (CTS) is a Federally Threatened Species. This species occurs in annual grasslands and grassy understories of valley-foothill hardwood habitats. They require underground refuges during the dry season and use vernal pools or other seasonal water sources for breeding. CTS is known to occurin the project vicinity.


California Tiger Salamander

To avoid potential adverse effects to CTS the following avoidance and minimization measures during construction will be implemented:

- Construction activities in grasslands will occur during the dry season (April 15 through October 15) or sediment fence will be placed around the project site within defined dispersal corridors to minimize the potential for mortality of dispersing salamanders or other native amphibians.
- The Biological Monitor will be present during any new ground-disturbing activities. Construction personnel must inspect any open excavations prior to the start of construction each morning. If a tiger salamander is observed, contact the Biological Monitor immediately. The Biological Monitor will transport the animal out of the project area and release it into suitable habitat.

California Red-legged Frog

The red-legged frog, a Federally Threatened and State Species of Special Concern, occurs in coastal and foothill creeks (slow moving), ponds, stockponds, ditches, and created wetlands. They over-summer in small mammal burrows and deep cracks in soil. The red-legged frog has many color phases, some can be dark with little to no red and others can be quite bright and covered in red markings.


California Red-legged Frog

Silvery Legless Lizard

The silvery legless lizard is a California species of concern which primarily occurs in areas with sandy or loose loamy soils such as those found on the OGS site and transmission line corridor.


Silvery Legless Lizard

Mammals

Bats

Two species of bats have the potential to use the project site for foraging and roosting: The Western Red Bat and the Pallid Bat. Both species are State Species of Special Concern. Roosting is most likely to occur in the tree canopy of the eucalyptus trees onsite.


Western Red Bat


Pallid Bat

San Joaquin Kit Fox

The San Joaquin kit fox, a Federally Endangered and State Threatened Species, is primarily nocturnal, but is commonly seen during the day in late spring and early summer. This species typically occurs in valley and foothill grassland or mixed shrub/grassland habitats throughout low, rolling hills and valleys, and also use habitats that have been altered by humans, such as agricultural lands and oil fields.


San Joaquin Kit Fox

American Badger

American badgers, a California Species of Special Concern, were once fairly widespread throughout open grassland habitats of California. They are now uncommon, permanent residents throughout most of the state, with the exception of the northern North Coast area. They are most abundant in the drier open stages of most shrub, forest, and herbaceous habitats with friable soils. The American badger may den or forage in the vicinity of the project site.


American Badger

If any animals are present in your work area, temporarily stop work and notify the Designated Biologist, Biological Monitor, or OGS Environmental Compliance Manager to have it removed. Do not attempt to handle injured or dead animals without first contacting the Designated Biologist or Biological Monitor.

Your Responsibility

- All personnel, equipment, and vehicles must remain inside the project boundary fence or in designated parking areas.
- If any animals (including snakes) are present in your work area, temporarily stop work and notify the Designated Biologist, Biological Monitor, or OGS Environmental Compliance Manager to have it removed.
- If wildlife is accidentally harmed, immediately notify the Biological Monitor.
- Do not handle wildlife.
- Do not feed or disturb wildlife.
- Report wildlife observations to the Designated Biologist, Biological Monitor, or OGS Environmental Compliance Manager.
- Fill out a Wildlife Observation form (in Environmental Compliance Manager's trailer and safety training trailer) for all wildlife observed on the site—alive, injured, or dead.

General Work Practices

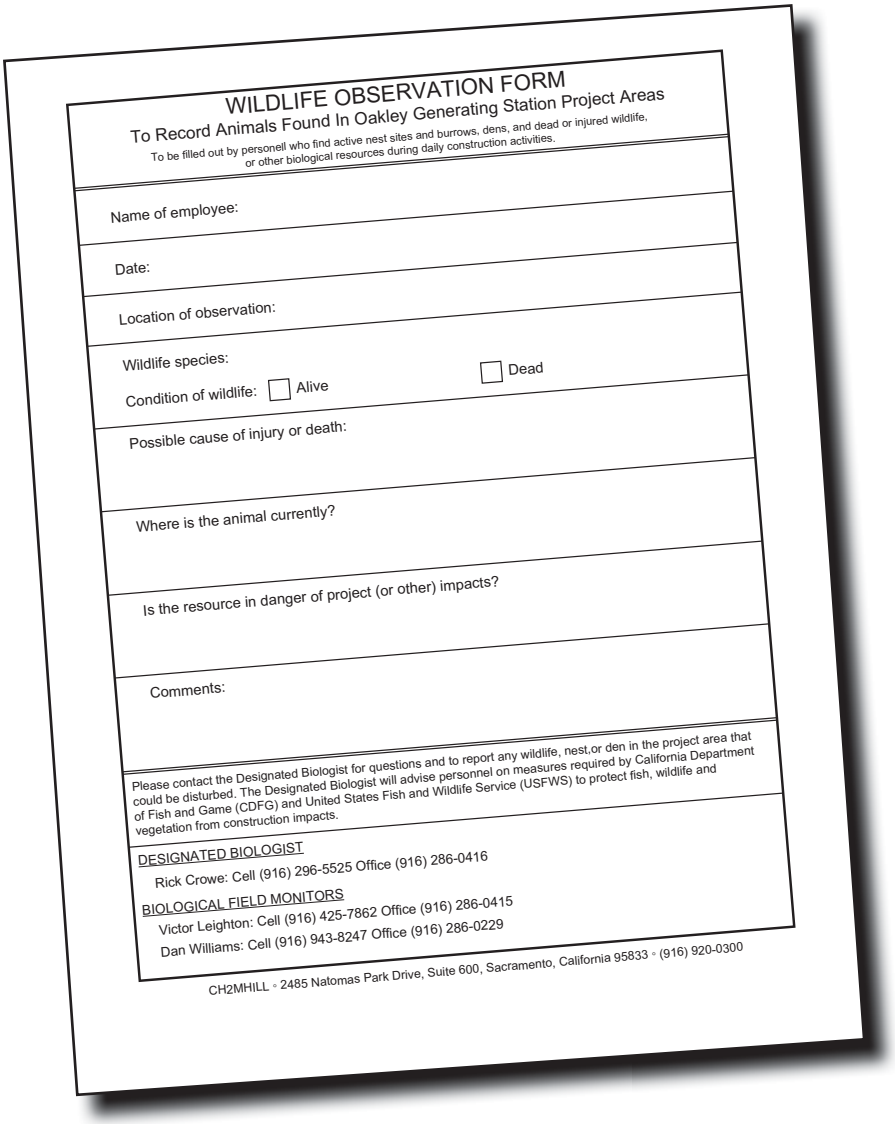
- Stay in approved work areas (construction zone limits).
- Use only approved access roads.
- Keep out of designated exclusion areas.
- Inspect open trenches for wildlife each morning before starting work.
- Do not litter.
- No pets, firearms, or hunting allowed on the project site or in the project area.
- No fires.
- Smoke only in authorized cleared areas.
- Keep fluid spill containment and clean up materials readily available.
- Clean up and report all hazardous material spills immediately.
- Do not discharge water into unapproved areas.
- Protect waterways and storm drains by implementing protective measures, such as silt fencing.
- Report trapped, injured, or dead wildlife to the Designated Biologist, Biological Monitor, or OGS Environmental Compliance Manager, and record the specifics on a Wildlife Observation Form. Forms are available in the Environmental Compliance Manager's trailer and the safety training trailer.

REMEMBER

Always ask before you act.

Wildlife Observation Form

It is the responsibility of all personnel to complete a wildlife observation form whenever they encounter an animal; alive, injured, or dead; or an animal nest, burrow, or other animal sign onsite that requires displacement. These forms will be available in the Environmental Compliance Manager's office and the safety training trailer. Sightings must also be reported to the Biological Monitor. The monitor will assist you if you have any questions about completing these forms.



WILDLIFE OBSERVATION FORM

To Record Animals Found In Oakley Generating Station Project Areas

To be filled out by personell who find active nest sites and burrows, dens, and dead or injured wildlife, or other biological resources during daily construction activities.

Name of employee:

Date:

Location of observation:

Wildlife species:

Condition of wildlife: ☐ Alive ☐ Dead

Possible cause of injury or death:

Where is the animal currently?

Is the resource in danger of project (or other) impacts?

Comments:

Please contact the Designated Biologist for questions and to report any wildlife, nest,or den in the project area that could be disturbed. The Designated Biologist will advise personnel on measures required by California Department of Fish and Game (CDFG) and United States Fish and Wildlife Service (USFWS) to protect fish, wildlife and vegetation from construction impacts.

DESIGNATED BIOLOGIST

Rick Crowe: Cell (916) 296-5525 Office (916) 286-0416

BIOLOGICAL FIELD MONITORS

Victor Leighton: Cell (916) 425-7862 Office (916) 286-0415

Dan Williams: Cell (916) 943-8247 Office (916) 286-0229

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Cultural Resources

Any trace of past human activity older than 50 years could be an important cultural resource. Places or sites where these traces occur are a part of a proud heritage that belongs to all of us. In the Contra Costa County area, there are archaeological remains that represent over 11,000 years of Native American prehistory and continue until 1769, when Spanish settlement occurred in California. Historical archaeological features, deposits, and architectural structural resources may also be found in the area. Significant cultural resources represent historical events, engineering achievements, and art or architecture styles that define what Americans have experienced. Ethnographic resources are also cultural resources, and they may include traditional plant gathering areas, shrines and ceremonial areas, cemeteries, natural landscape features, and ethnic structures or districts. Because these achievements define what we are and affect what we become, the past belongs to us all and we all have a responsibility to help preserve significant cultural resources.

Archaeological and historical sites are a non-renewable resource. Though we are always creating new cultural resources for people of the future to interpret or preserve for posterity, historical and archaeological sites, once destroyed, cannot be recreated.

Archaeological remains are often so fragmentary that it is possible to scrape, dig, or bulldoze right through a buried site without realizing it. Here's what to look for:

- Discolored soil, particularly gray-black soil with a "greasy" feel to it, in an area of lighter colored soils.
- Any animal or human bone. The proper treatment of Native American graves is of great concern. Possession of artifacts or human remains from a Native American grave is a felony (PRC 5097.99).
- A thin layer, or series of layers, particularly dark layers containing charcoal or ash, in an excavation side wall.
- Shell, freshwater or marine, or shell artifacts
- Any unusual concentration of rocks, particularly if they seem to form a pattern (such as a campfire).
- A concentration of small pieces of broken rock, particularly obsidian or chert with sharp edges.
- A concentration of historic-era trash, including bottles, broken glass, broken ceramic, bone, and metal pieces.
- A concentration of brick, concrete, or mortared stone that might indicate a structural foundation.

The kinds of cultural resources that may be discovered at the OGS project site include prehistoric artifacts such as grinding stones, arrowheads, and stone flakes, and historic artifacts such as glass bottles, metal objects, animal bones, and building foundations. Human skeletons may also be exposed.

Cultural Resources Monitors

The Oakley Generating Station will have a Cultural Resources Monitor onsite during all ground disturbance activities, including earth-moving, clearing, grading and drilling. The Cultural Resources Monitor will observe all work involving native soil disturbance in areas where buried cultural resources may exist. It is the monitor's job to evaluate any cultural resources discovered during construction activities, and to stop work on the project if any important cultural resources are discovered.

Examples of Cultural Resources

The following are examples of cultural resources that could be uncovered in the project area. The first seven examples are all stone tools shaped for specific functions.

Hammer Stone

The first example is a small **hammer stone**. Hammer stones were used for a wide range of tasks and may show wear at one or both ends.

Flaked Cobble

Flaked cobbles were used for scraping, digging, or cutting. They can occur in a variety of shapes and sizes, with a smooth end for holding.

Scraper

Scrapers had a variety of uses including preparing animal skins, shaping wood, or preparing food. Depending on their function, scrapers come in many shapes and sizes.

Lithic Debitage

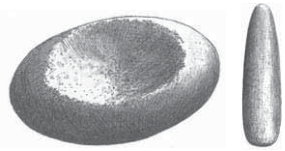
Lithic debitage is the waste material produced during the manufacture of flaked stone tools such as knives and projectile points. Debitage may be found in a variety of shapes and sizes, often as a concentration of small flakes of stone.

Flaked Knives

Flaked knives are very distinctive and easily identified by shape and flaking pattern. Flaked knives can be found in a large number of shapes and sizes.

Projectile Points are also very distinctive, and are commonly referred to as arrowheads. Projectile points can range in size from one to six inches long and several inches wide.

Arrowheads

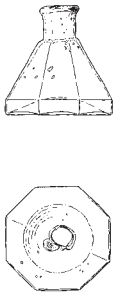


Mortar and Pestle

The **Mortar** and **Pestle** were used together as a grinding tool. They were used to prepare foods, pigments, medicines, and potions.

Historic artifacts that may be present include glass bottles, bone, ceramics, metal cans, and other metal objects, including wire, nails, and building hardware, as well as the remains of former building foundations and underground utilities.

Medicine Bottle



Glass Ink Bottle
Clear glass octagonal ink bottle early 20th century

Glass Milk Bottle
One quart milk bottle Hester Dairy, San Jose, CA circa 1935

Your Responsibility

If a Cultural Resources Monitor is present when a cultural resource is exposed, he or she will direct you to stop work at the location of the "find." The Cultural Resource Specialist and Cultural Resource Monitors have the authority to halt construction in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the Cultural Resource Specialist. Stopping construction in the vicinity of an archaeological find is an important condition of the project's license from the CEC and one with which we expect you to comply. Work may be stopped or redirected for only a few minutes, or it may be shut down for an extended period of time, depending on what is found.

If a Cultural Resources Monitor is not present when a cultural resource is found, it is your responsibility to stop work and notify your supervisor and the Cultural Resource Specialist or Cultural Resource Monitor. Work may not resume until the construction supervisor and the Cultural Resource Specialist determine how to redirect work to avoid the find until the CEC and Cultural Resources Specialist can evaluate its significance.

It is illegal for you to collect any objects, including old bottles, from public land according to the California Public Resources Code (sections 5097.5 and 5097.9). Disturbing Native American burial sites is a felony under California Public Resources Code Section 5097.99. In addition, the deliberate destruction and removal of cultural resources on private land is prohibited under the conditions of the project's license from the CEC.

The following state and federal laws and regulations affect the management of cultural resources:

- Archaeological Resources Protection Act
- National Historic Preservation Act
- California Environmental Quality Act
- California Public Resources Code (Sections 5097.5, 5097.9, and 5097.99)

Violations of these regulations can result in federal indictment, and are punishable by civil and criminal penalties, including both fines and/or imprisonment, and could result in the revocation of project certifications and shutdown of the project at the direction of the appropriate state agency.

Only authorized personnel may handle cultural resources. Notify the Cultural Resources Monitor or Site Superintendent if you think you may have found a cultural resource. Do not touch or move the object.

If you have any questions about these procedures, please ask your Site Superintendent or Cultural Resources Monitor for more information.

Paleontological Resources

Along with the project's commitments to cultural and biological resources, the Conditions of Certification of the California Energy Commission require everyone on this project to watch out for and avoid impacts on paleontological resources. CCGS is committed to adhering to the rules regarding paleontological resources monitoring and mitigation during construction at the OGS.

Paleontological resources, or fossils, are the remains of prehistoric plants and animals. Fossils include animal bones and teeth, and plant remains such as logs and even prehistoric leaf litter. Fossils also include such things as ancient burrows and tracks, and even very small remains such as the bones of birds and rodents, and even seeds.

Paleontological resources are protected by state and federal laws, and it is a violation of those laws to disturb fossils, except in the course of their scientifically controlled recovery, or to collect fossils without proper authorization.

Fossils have been found nearby, and because of that, this project includes a paleontological resources protection program. As part of that program paleontological resources monitoring will be implemented and managed by a designated Paleontological Resources Specialist. A Paleontological Resources Monitor will be onsite during excavation of native soil that might contain fossils. If a potential fossil is discovered, the Paleontological Resources Monito will evaluate it to determine if it is a fossil and consult with the Paleontological Resources Specialist. **Like the Cultural Resources Monitor, the Paleontological Resources Monitor will have the authority to stop or redirect work in the immediate vicinity of a fossil find until it is properly recorded and recovered.**

Examples of Paleontological Resources

It is important that you are able to recognize fossils. Scientifically significant fossils take all shapes and sizes: Here we see the track of an extinct trilobite preserved in mica-rich shale with a trilobite fossil of about the right size. These animals went extinct some 270 million years ago.


Trilobite Track

Ammonite Fossils

And here we have two ammonites, which were squids living in shells, recovered from rocks laid down when the ocean covered most of California, up to about 65 million years ago when they became extinct.

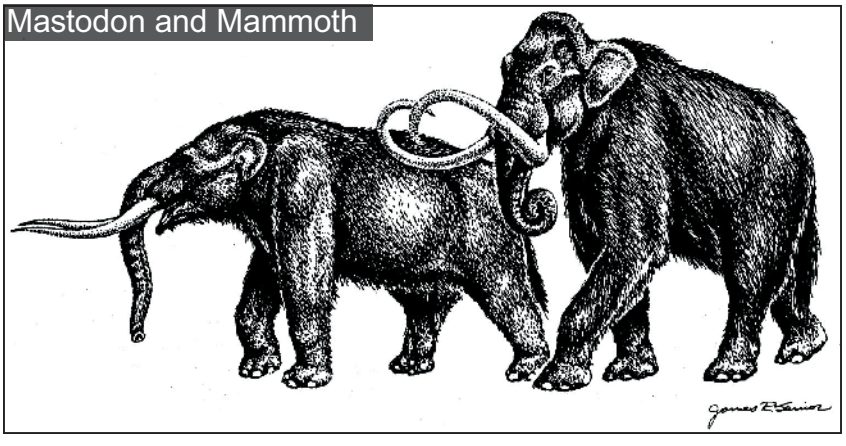
Fossils are non-renewable resources because they represent life and environments that no longer exist. If they are destroyed or taken without proper, scientifically controlled collection the detailed evidence of that past life is lost forever. It does not help if the fossil is in somebody's private collection because scientists will not have access to it for study. When properly collected, fossils provide important scientific evidence not only of the types of animals or plants of the distant past, but also data on past environments, climate change, and past extinction events.

As important scientific and educational resources, fossils are protected by state and federal law. Those laws require all of us to specifically watch for, and take steps to protect, fossils during excavations for the OGS. The laws protecting fossils are specific: NO individual can disturb fossils except in the course of their scientific investigation and controlled recovery. So we need to take care during excavations to identify and protect any fossils that may be uncovered until they are examined and removed by a qualified paleontologist.

Important fossils have come from soils like those at the OGS site. The remains of Ice Age animals and plants were included in the sediment washed out of the Sierra and deposited here. For example, mammoth and mastodon lived in the Central Valley during the last Ice Age.

The mastodon is the shorter, stockier "elephantid" to the left, the mammoth is to the right.

Mastodon and Mammoth

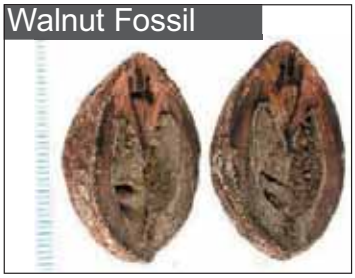


From studies of the geology of the area, we know that there are areas underlain by sediment that may contain fossils, such as these vertebrae of the extinct North American camel. That is why the California Energy Commission requires a Paleontological Resources Monitor to be present during excavations that will disturb sediments with fossil potential. But we need your help as well.

Camel Vertebrae

Be on the look-out for anything that looks strange or different—a bone, a log, or other remain that is just out of place or is shaped strangely. These need to be brought to the attention of either the paleontological or the archaeological monitor, or to your construction supervisor. What you find may be a fossil that will need to be recovered properly to avoid violating laws protecting it.

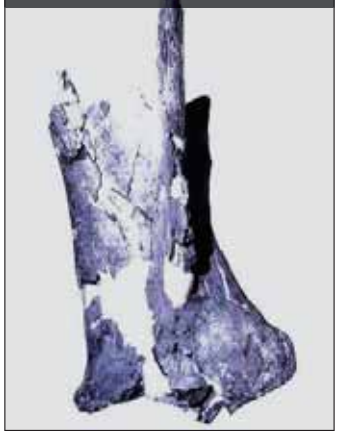
Walnut Fossil



A Paleontological Resources Monitor will be present during excavations in paleontologically sensitive sediment. But the monitor has only two eyes, and your eyes are needed too. If it doesn't look like a rock, it may not be a rock, and it might be a fossil. And, even though it looks like nothing more than a discarded peach pit, this is actually a fossil walnut that is about 700,000 years old that came from a well boring near Turlock.

When they are covered with dirt, fossils are never as obvious as these specimens. Here we have a shoulder blade of the extinct North American camel, from the Walnut Energy Center near Turlock.

Camel Shoulder Blade



What To Do if a Fossil Discovery is Made

If you think you've found a fossil, leave it where it is, contact the Paleontological Resources Monitor and divert construction activities away from the find.

If a Paleontological Resources Monitor is not immediately available, stake and flag it yourself in such a way that others will know not to enter that area. Use construction avoidance fencing, or lathe and construction avoidance tape, to create an exclusion zone where the fossil find can be protected until removed, and where the paleontologists can work to clear the find without having to worry about heavy equipment.

Do not congregate near the find or impede the scientists investigating the find in any way—they're working to get it out of the way as quickly as possible, while recovering its scientific values as required by law.

Your Responsibility

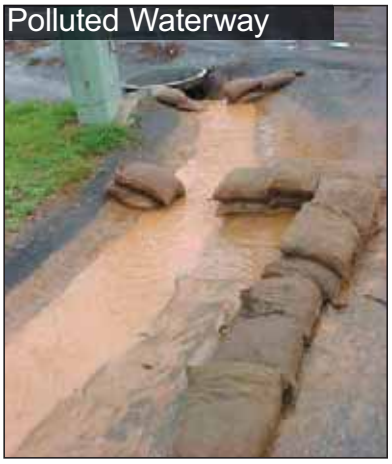
CCGS is committed to the protection of fossil resources. **Remember: it is your duty to help with this protection effort.** If you think you have found a fossil, stop work in the immediate area, and notify the Environmental Compliance Manager and/or the Paleontological Resources Monitor so that your "find" can be evaluated as quickly as possible.

The following state and federal laws and regulations affect the management of paleontological resources:

- Federal Antiquities Act of 1906
- California Environmental Quality Act
- California Public Resources Code (Sections 5097.5 and 5097.9)

Violation of these regulations is punishable by civil and criminal penalties, including both fines and/or imprisonment, and could result in the revocation of project certification and shut-down of the project at the direction of the appropriate state agency.

Stormwater Management


Polluted Waterway

Polluted runoff can negatively impact birds, aquatic life, livestock, recreation, pipe systems, navigation in waterways, and sources of drinking water. The primary stormwater pollutant at construction sites is excess sediment. At the national level, the U.S. EPA states that 40% of all U.S. waters are not fishable or swimmable, and has identified sediment from construction sites as the #1 non-point source pollutant. Sediment also transports other pollutants such as pesticides, metals, oils, and greases.

National Pollutant Discharge Elimination System General Permit Order No. 2009-0009-DWQ, also known as the Construction General Permit, regulates discharges of pollutants in stormwater discharges to waters of the U.S. from construction sites that disturb one or more acres of land surface. It is illegal to pollute local waterways, and fines and criminal charges are becoming more common. Members of regulatory agencies with jurisdiction over stormwater discharges from a construction site, such as the Regional Water Quality Control Board, can arrive at the site unannounced at any time to inspect all areas for compliance with the Construction General Permit.

The Stormwater Pollution Prevention Plan

A Stormwater Pollution Prevention Plan, also known as a SWPPP, was developed to address the construction activities associated with the OGS project and identify Best Management Practices (BMPs) for stormwater pollution prevention. Adherence to the BMPs is required in order to keep the project site in compliance with applicable regulations and prevent the levying of fines or even an Immediate Cease and Desist Order.

The Qualified SWPPP Practitioner has primary responsibility for the implementation, inspection, and maintenance of the BMPs identified in the SWPPP. BMPs implemented onsite include controls for erosion, sedimentation, tracking, wind erosion, non-stormwater discharges, and waste management.

Best Management Practices

Erosion control, also referred to as soil stabilization, is a source control measure that is designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion-control BMPs protect the soil surface by covering or binding soil particles. Examples of erosion controls are the use of mulch or geotextiles.

- Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water. Examples of sediment controls are the use of silt fence or fiber rolls.

Silt Fence

Tracking Control

- Tracking controls prevent sediment and other loose construction materials from being tracked off the project site. An example of a tracking control is the use of a stabilized construction entrance or exit.
- Dust erosion control measures, such as watering the disturbed areas at the construction site, are implemented to minimize the wind-blown loss of soil from the site.
- Non-stormwater control measures address the storage, use, and disposal of materials such as vehicle fluids and curing compounds.
- Waste management controls manage the various waste streams generated from construction activities, such as the disposal of excess concrete.

Inlet Protection

Your Responsibility

At the job site, you can assist in the effort to prevent pollutant-laden stormwater from discharging offsite by:

- Installing fencing to protect sensitive resources and limit construction areas in coordination with the Site Supervisor and Biological Monitor. Respect the boundaries of these fenced areas, and only open or remove them upon direction of the Site Supervisor and Biological Monitor.
- Installing fiber rolls, silt fence, covers on stockpiled materials, and other BMPs as directed by the Site Supervisor.
- Only moving, adjusting, or removing BMPs in coordination with the Site Supervisor.
- Immediately contacting the Site Supervisor if you see fiber rolls, silt fence, or other BMPs in need of maintenance or repair.

To minimize dust:

- Drive vehicles onsite at the posted speed limit.
- Use the stabilized construction entrances/exits to prevent dirt on tires from being tracked-out onto public or paved roads.
- Inspect equipment vehicle tires and wash as necessary to be free of dust prior to entering paved roadways.
- Sweep or vacuum tracked dirt from paved roads daily, and as directed by the Air Quality Construction Mitigation Manager.
- Water the project site as directed by the Site Supervisor to control dust associated with vehicle traffic and construction activities.
- Cover and berm stockpiles of loose construction materials, such as soil, that are not actively being used.

To minimize the potential of a release of pollutants into stormwater:

- Use the designated concrete washout area, material storage areas, and vehicle maintenance and fueling areas as specified in the SWPPP.
- Walk, drive, and park only in designated areas and paths.
- Inspect your vehicles and equipment daily for leaks, and report leaks to the Site Supervisor.
- Refuel equipment or vehicles only in designated areas.
- Use drip pans or absorbent pads for all vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids.
- Wash equipment and vehicles only in designated areas. When feasible, wash them offsite.
- Store all materials only in their designated areas.
- Put all waste materials only in their respective designated containers.
- Close disposal containers, including trash bins, at the end of every business day and during a rain event.
- Use the designated concrete washout area when needing to wash out concrete trucks or dispose of Portland cement concrete or asphalt concrete waste.
- Park paving equipment over plastic when not in use.
- Check with the Site Supervisor before you discharge groundwater or any wastewater.
- Report leaks, spills, or discovery of contaminated soil immediately to the Site Supervisor. Implement clean-up procedures as directed.

To help with the detection of pollutants in stormwater:

- Immediately report any dirty water or sedimentation or discharge of pollutants leaving the project site to the Site Supervisor.
- Immediately report the discovery of any debris in water areas to the Site Supervisor.

Contact Personnel

CCGS LLC Construction Manager, Jim McLucas
(925) 820-5222

OPC Construction Manager, Steve Fawcett
(913) 636-4828

OGS/CCGS LLC Environmental Compliance Manager, Greg Lamberg
(925) 820-5222

OGS SWPPP QSD, G.O. Graening
(916) 452-5442

OPC Air Quality Construction Mitigation Manager, Al Dame
(937) 750-1880

PG&E Air Quality Construction Mitigation Manager, Dena Parish
(707) 267-8674

Biological Monitors

Designated Biologist/Biological Monitor, Rick Crowe
Cell (916) 296-5525, Office (916) 286-0416

Biological Field Monitor, Victor Leighton
Cell (916) 425-7862, Office (916) 286-0415

Biological Field Monitor, Dan Williams
Cell (916) 943-8247, Office (916) 286-0229

Cultural Resources Specialist and Monitor

Designated Cultural Resources Specialist, Clint Helton
Cell (949) 500-2496

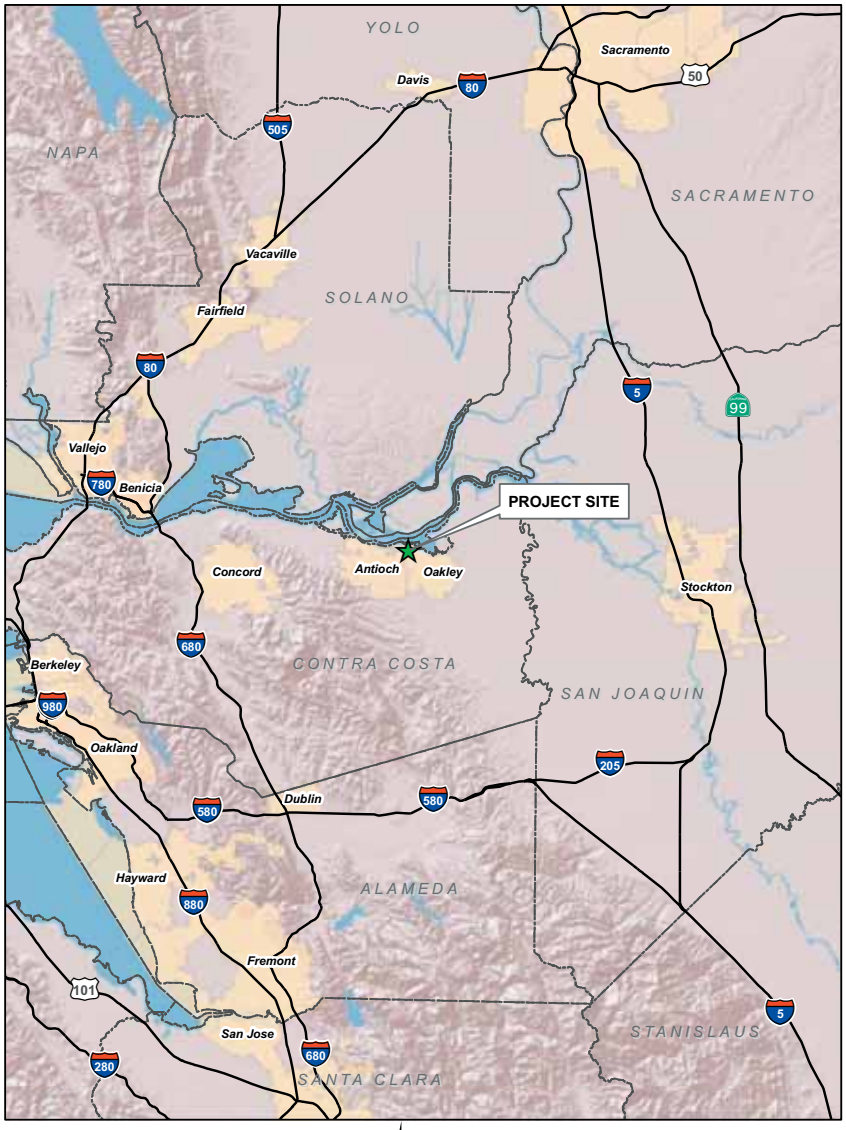
Cultural Resources Monitor, Phil Reid
Cell (510) 673-0909

Paleontological Resources Monitor

Designated Paleontological Resources Specialist, Dr. Geof Spaulding
Cell (702) 524-5860, Office (702) 953-1233

Paleontological Resources Monitor, Jaspal Saini
(916) 225-3100

Oakley Generating Station

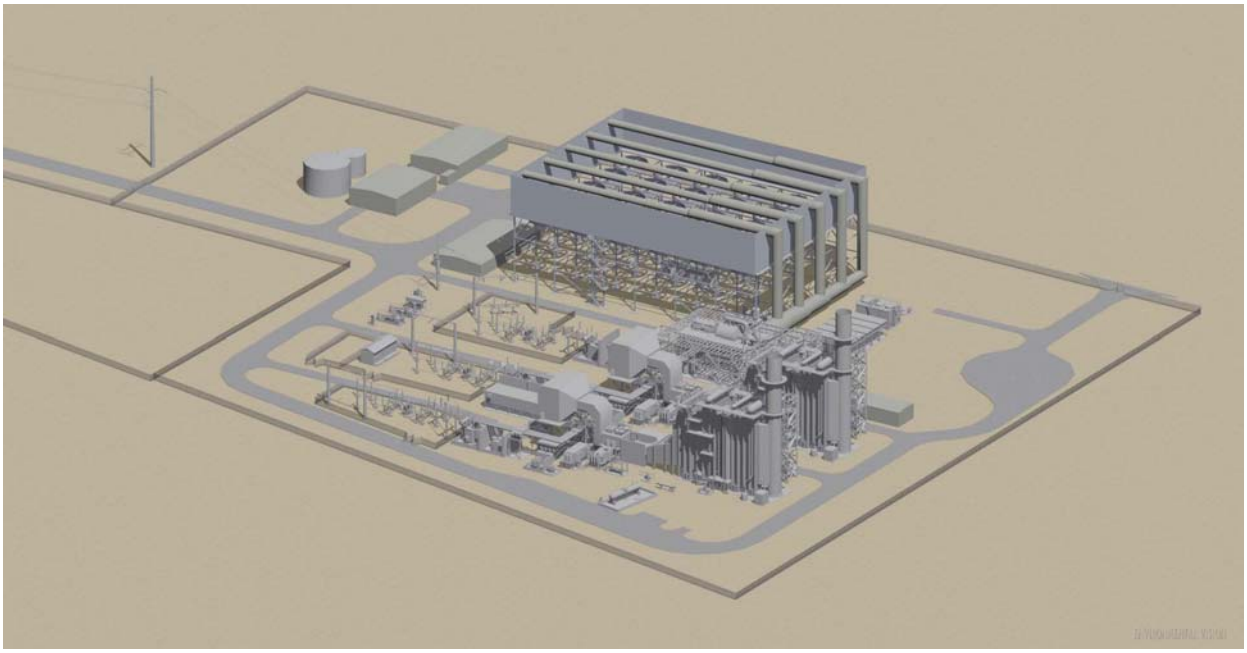


Appendix B
CEC Biological Conditions of Certification, Agency Agreements/Permits

California Energy Commission Biological Resources Conditions of Certification

OAKLEY GENERATING STATION

Commission Decision



CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown Jr., Governor

MAY 2011
CEC-800-2011-002-CMF

DOCKET NUMBER 09-AFC-4

CALIFORNIA
ENERGY COMMISSION
1516 Ninth Street
Sacramento, CA 95814

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Hearing Officer

CONCLUSION OF LAW

The project will comply with all applicable laws, ordinances, regulations, and standards (LORS) listed in **Appendix A** of this Decision and referenced under Biological Resources.

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST SELECTION

BIO-1 The project owner shall assign a Designated Biologist to the project. The project owner shall submit the résumé of the proposed Designated Biologist, with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval.

The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field; and
2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and
3. At least one year of field experience with biological resources found in or near the project area.

In lieu of the above requirements, the résumé shall demonstrate to the satisfaction of the CPM, that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the Conditions of Certification.

Verification: The project owner shall submit the specified information at least 60 days prior to the start of any site (or related facilities) mobilization. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities.

The Designated Biologist may be assisted by the approved Biological Monitor(s), (see **BIO-3** below), but remains the contact for the project owner and CPM.

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources Conditions of Certification;
2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), to be submitted by the project owner;
3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special status species or their habitat;
4. Clearly mark sensitive biological resource areas if present and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (i.e. parking lots) for animals in harm's way;
6. Notify the project owner and the CPM of any non-compliance with any Biological Resources Condition of Certification;
7. Respond directly to inquiries of the CPM regarding biological resource issues;
8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Report; and
9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training and all permits.

Verification: The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources activities. Monthly Compliance Reports will also be submitted to the East Contra Costa County Habitat Conservancy (Conservancy). If actions may affect biological resources during operation, a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the

Annual Compliance Report unless their duties are ceased as approved by the CPM.

BIOLOGICAL MONITOR QUALIFICATIONS

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the résumé, at least three references and contact information, of the proposed Biological Monitors to the CPM for approval. The résumé shall demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks.

Biological Monitor(s) training by the Designated Biologist shall include familiarity with the Conditions of Certification and the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), WEAP, and all state, federal, and local permits.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site (or related facilities) mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) have been trained including the date when training was completed. If additional biological monitors are needed during construction the specified information shall be submitted to the CPM for approval 10 days prior to their first day of monitoring activities.

DESIGNATED BIOLOGIST AND BIOLOGICAL MONITOR AUTHORITY

BIO-4 The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the Biological Resources Conditions of Certification.

If required by the Designated Biologist and Biological Monitor(s) the project owner's Construction/Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;
2. Inform the project owner and the Construction/Operation Manager when to resume activities; and
3. Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.

Verification: The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-5 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure are informed about sensitive biological resources associated with the project.

The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas, if present;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures as necessary;
5. Discuss penalties for violation of applicable LORS (e.g., federal and state endangered species acts);
6. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
7. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Verification: At least 60 days prior to the start of any site (or related facilities) mobilization, the project owner shall provide to the CPM the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a résumé of the person(s) administering the program. At least 10 days prior to site and related facilities mobilization, the project owner shall submit two copies of the CPM-approved materials. The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

Training acknowledgement forms signed during construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

During project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN (BRMIMP)

BIO-6 The project owner shall develop a BRMIMP and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFG, USFWS, and the East Contra Costa County Habitat Conservancy (Conservancy) (for review and comment) if applicable and shall implement the measures identified in the approved BRMIMP.

The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:

1. all biological resource mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. all Applicant-proposed mitigation measures presented in the Application For Certification, data request responses, and workshop responses;
3. all Biological Resource Conditions of Certification identified as necessary to avoid or mitigate impacts;
4. all biological resources mitigation, monitoring, and compliance measures required in the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (ECCC HCP/NCCP) terms and conditions, as approved by the East Contra Costa County Habitat Conservancy (Conservancy);
5. all biological resource mitigation, monitoring, and compliance measures required in other state agency terms and conditions, such as those provided in the National Pollution Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit;

6. all biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;
7. a list of all sensitive biological resources to be impacted, avoided, or mitigated during project construction, operation, and closure;
8. all required mitigation measures for each sensitive biological resource;
9. a detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
10. all locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
11. aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities — one set prior to any site (and related facilities) mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
12. duration for each type of monitoring and a description of monitoring methodologies and frequency;
13. performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. all performance standards and remedial measures to be implemented if performance standards are not met;
15. a preliminary discussion of biological resources-related facility closure measures; and
16. a process for proposing BRMIMP modifications to the CPM and appropriate agencies for review and approval.

Verification: The project owner shall provide the draft BRMIMP to the CPM at least 60 days prior to start of any site (or related facilities) mobilization. The CPM, in consultation with the East Contra Costa County Habitat Conservancy (Conservancy) (and USFWS and CDFG if they choose to comment), will determine the BRMIMP's acceptability. If there are any permits that have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM within five days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within 10 days of their receipt by the project owner. Ten days prior to site and related facilities mobilization the revised BRMIMP shall be resubmitted to the CPM.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM, in consultation with the Conservancy, (and USFWS and CDFG if they choose to comment), to ensure no conflicts exist.

Implementation of BRMIMP measures will be reported in the Monthly Compliance Reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval a written construction completion report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding. Additional copies shall be provided to the East Contra Costa County Habitat Conservancy, CDFG, and USFWS.

GENERAL IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-7 The project owner shall implement the following measures during construction and operation to manage their project site and related facilities in a manner to avoid or minimize impacts to the local biological resources:

1. Limit Disturbance Area. Clearly demarcate construction exclusion zones around biologically sensitive areas, including but not limited to, East Antioch Creek and other aquatic resources (Wetland E, Wetland D, and Wetland F), the row of *Eucalyptus* trees (excluding the 25 feet of trees to be removed) and the group of trees growing in the ruderal grassland near the laydown area, and any other sensitive biological resources identified during pre-construction surveys. Vehicles and personnel shall be prohibited from entering sensitive habitats. Protection would include wildlife exclusion fencing and/or silt fencing, signs, and sediment control measures installed prior to pre-construction site mobilization. Best Management Practices will be implemented during all phases of the project. Transmission Line Best Management Practices will be implemented to prevent topsoil from leaving the construction area.

2. Minimize Impacts of Transmission Lines. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the *Avian Power Line Interaction Committee (APLIC), Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) to reduce the likelihood of electrocutions of large birds. Bird flight diverters shall also be installed along portions of the transmission line within bird

migration routes to reduce the likelihood of avian collisions with the transmission line. Bird flight diverters such as the Swan-Flight Diverter (Tyco Electronics) shall be installed on the transmission line in the vicinity of the Wetland E Conservation Easement Area and East Antioch Creek.

3. Avoid Use of Toxic Substances. Road surfacing and sealants as well as soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.

4. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards the project boundaries. Lighting shall be shielded, directional, and at the lowest intensity required for safety.

5. Avoid Wildlife Pitfalls. At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access. Should wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual to a safe location. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed.

6. Avoid Entrapment of Wildlife. Any construction pipe, culvert, or similar structure with a diameter greater than three inches, stored less than eight inches above ground for one or more days/nights, shall be inspected for wildlife before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored, or placed on pipe racks.

7. Report Wildlife Injury and Mortality. Report all inadvertent deaths of special-status species to the appropriate project representative, including road kill. Species name, physical characteristics of the animal (sex, age class, length, weight), and other pertinent information shall be noted and reported in the Monthly Compliance Reports. Injured animals shall be reported to CDFG or USFWS and the CPM and the project owner shall follow instructions that are provided by CDFG or USFWS.

8. Avoid Use of Exotic Pest Plants. Eliminate from landscaping plans any California exotic pest plants of concern as defined by the California Department of Food and Agriculture (CDFA) and California Invasive Plant Council (Cal-IPC).

9. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed daily from the site. Workers shall not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.

10. Minimize Impacts to Trees. During construction, measures will be implemented to minimize impacts to existing trees to remain on the OGS Project site. This includes installation of silt fencing and/or wildlife exclusion fencing to reduce the likelihood of impacts to trees.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. Photographic verification of all bird flight diverters installed will be provided upon installation and provided in the Monthly Compliance Report. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed. Additional copies shall be provided to the East Contra Costa County Habitat Conservancy, CDFG, and USFWS.

PROTECTED TREES MITIGATION FEES

BIO-8 To comply with various protected tree ordinances, the project owner shall mitigate for loss of protected trees based on the results of the project owner's arborist report. Mitigation shall include either mitigation fees and/or the purchase of replacement trees. A tree permit shall be obtained from the City of Oakley Community Development Department and one of the following mitigation options is required: three new trees of the same species shall be planted for each protected tree removed; or the total appraisal fee for the protected trees scheduled to be removed shall be paid to the Community Development Department or a combination of replacement tree plantings and in lieu fee payments shall be made. Mitigation will be assessed by the CPM in coordination with City of Oakley based on review of the arborist report.

A tree permit shall be obtained from the City of Antioch. Protected trees within the City of Antioch that legally would be removed would be replaced by boxed specimens at a rate of two 24-inch box trees for each established tree and two 48-inch box trees for each mature tree. In lieu of boxed specimens, penalties would be assessed by the City of Antioch based on the size of the tree to be removed. Mitigation will be assessed by the CPM in coordination with City of Antioch based on review of the arborist report.

The project owner will submit an arborist report to the CPM for review and approval in consultation with the City of Antioch which identifies all

protected trees that will remain in place but will have construction within the dripline. A bond will be required for each protected tree at which grading will occur within the drip line within the City of Antioch. If no protected trees would have construction within the dripline the project owner will submit written verification to the CPM and the City of Antioch stating that no construction activities will occur within the dripline of protected trees and no bond is required.

Verification: At least 30 days prior to the start of any tree removal, the project owner shall provide to the CPM for review and approval, and to the City of Oakley and City of Antioch for review and comment, the arborist report which identifies all trees to be removed within the City of Oakley and City of Antioch and all protected trees to remain in place at which grading will occur within the drip line within the City of Antioch. A copy of the receipt of payment and/or verification of tree replacement to the City of Oakley, verifying that the protected tree mitigation fees have been paid, according to the conditions specified above, shall be provided to the CPM prior to tree removal.

A copy of the verification of 2:1 protected tree replacement or the receipt of payment of penalty fees to the City of Antioch, according to the conditions specified above, shall be provided to the CPM prior to tree removal. Prior to tree removal a copy of the receipt of payment of bond will be submitted by the project owner upon posting a bond to the City of Antioch for any protected trees that would have construction or grading within the dripline or written verification that no protected trees are located where construction or grading activities would occur.

PRE-CONSTRUCTION NEST SURVEYS AND IMPACT AVOIDANCE AND MINIMIZATION MEASURES FOR BREEDING BIRDS

BIO-9 Pre-construction nest surveys shall be conducted if construction activities including tree removal will occur from February 1 through September 15. At all times of the year, noise generating activities (above 60 dBA) shall be avoided during dawn and dusk to avoid impacts to birds protected under the Migratory Bird Treaty Act. The Designated Biologist or Biological Monitor shall perform surveys in accordance with the following guidelines:

1. Surveys shall cover all potential nesting habitat in the project site and within 150 feet of the boundaries of the plant site as well as the sanitary sewer force main route and transmission line right-of-way. Surveys specifically for nesting Swainson's hawk shall be conducted within 1,000 feet of designated disturbance areas that contain appropriate nesting habitat. Surveys specifically for nesting Golden eagle shall be conducted within one-half mile of designated disturbance areas that contain appropriate nesting habitat. If a potential Swainson's hawk nests is located within 1,000 feet of the

project site, occupancy may be determined by observation from public roads or by observations of Swainson's hawk activity (e.g. foraging) near the project site.

2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. Pre-construction surveys shall be conducted no more than 30 days prior to initiation of construction activity. One survey needs to be conducted within the 14-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

3. If active nests are detected during the survey, a no-disturbance buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with the CPM (in coordination with CDFG, and USFWS) and monitoring plan shall be developed; Consultation with the CPM in coordination with CDFG shall be required for any construction that occurs within 1,000 feet of a Swainson's hawk nest or one-half mile of an active Golden eagle nest to ensure that no take of Swainson's hawk or Golden eagle occurs during project construction. Nest locations shall be mapped using GPS technology and submitted, along with a weekly report stating the survey results, to the CPM.

4. If Swainson's hawk young fledge prior to September 15, construction activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project Applicant can apply to the Conservancy for a waiver of the no-disturbance buffer zone requirements. The waiver must also be approved by the CDFG and USFWS and the CPM must be notified of any request for a waiver.

5. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed. Activities that might, in the opinion of the Designated Biologist, disturb nesting activities (e.g., excessive noise above 60 dBA, especially during steam blowing), shall be prohibited within the buffer zone until such a determination is made.

Verification: Prior to the start of any pre-construction site mobilization, the project owner shall provide the CPM and the East Contra Costa County Habitat Conservancy (Conservancy) a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed.

If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest, and a monitoring plan shall be submitted to the Conservancy for review and comment and the CPM for approval. Additional copies shall be provided to the CDFG and USFWS. Approval of the plan is required before construction may commence. All impact avoidance and minimization measures related to nesting birds shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

IMPACT AVOIDANCE AND MINIMIZATION MEASURES FOR BATS

BIO-10 The project owner shall conduct a survey for roosting bats within 200 feet of project activities within 30 days prior to any pre-construction site mobilization, including tree removal. All trees and snags proposed for removal, topping, or pruning shall be marked in the field. A qualified bat biologist shall conduct a roost assessment of all the marked trees. The biologist shall be approved by the CPM. If no suitable roosting habitat is present, no further action is required.

If suitable roosting habitat is present, the project owner shall also conduct surveys for roosting bats during the maternity season (March 1 to August 31) within 200 feet of project activities. Trees and other appropriate structures shall be surveyed by a qualified bat biologist. Surveys shall include a minimum of one day and one evening survey. The biologist shall be approved by the CPM. If active maternity roosts or hibernacula are found, the trees occupied by the roost shall be avoided (i.e., not removed) by the project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CPM-approved methods, developed in consultation with CDFG) for nearby alternative maternity colony sites. If the bat biologist determines, in consultation with the CPM and CDFG and with the approval of the CPM, that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required and tree removal may occur.

However, if there are no alternative roosts sites used by the maternity colony, provision of substitute roosting bat habitat would be required. This measure would not apply to Western red bat as they are solitary and primarily use trees as roosts. If Western red bats are present during the breeding season, tree removal would not occur during the breeding season and Item 3 below would be implemented. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then exclusion of bats prior to tree removal is required.

1. Provision of substitute roosting bat habitat. If a maternity roost will be impacted by the project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the project site no less than three months prior to the eviction of the colony. Alternative roost sites will be designed and constructed in accordance with the specific bats' requirements and in coordination with CDFG and the CPM. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

2. Exclude bats prior to removal of trees with roosts. If non-breeding bat hibernacula are found in the trees to be removed within the construction footprint, the individuals shall be safely evicted, under the direction of the qualified bat biologist, by partial dismantling of roost sites (e.g. removal of tree limbs) to induce abandonment by bats, or other appropriate measures. Additionally, on the day of tree removal the tree cutters will inspect the trees prior to them felling the trees for bats in areas that the Designated Biologist is not able to observe from the ground.

   If an active maternity roost is located in an area to be impacted by the project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to March 1) or after young are flying (i.e., after August 31) using the exclusion techniques described above.

3. Western red bat specific measures. If an active Western bat maternity roost is found in the trees to be removed, tree removal will not occur during the breeding season to avoid disturbing females with non-volant (incapable of flying) young (March 1 through August 31). The leaf litter associated with the tree(s) will be removed during the warm season to prevent Western red bats from roosting under the leaf litter during the winter when tree removal will occur. Prior to tree removal, outside of the breeding period, on the day immediately preceding tree removal, any tree to be removed will first be disturbed at the end of the day (after 5:00 pm) by removing the lowest branches that do not have dense clusters of leaves. Trees should be removed the day after the initial disturbance as bats disturbed under these circumstances are not likely to return to the same tree for day roosting the next day. Additionally, on the day of tree removal the tree cutters will inspect the trees prior to them felling the trees for bats in areas that the Designated Biologist is not able to observe from the ground.

4. Bat maternity roosts in trees to remain on site. The Designated Biologist shall monitor the maternity roost until it is determined that young are volant (are capable of flying); activities that might, in the opinion of the Designated Biologist, disturb roosting activities (e.g., excessive noise above 60 dBA, especially during steam blowing), shall be prohibited within the buffer zone until such a determination is made.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. The résumé of the proposed bat biologist will be submitted to the CPM for approval at least 45 days prior to the start of any bat surveys. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. A written report summarizing the results of the pre-construction survey shall be sent to the CPM and CDFG no less than 15 days prior to the start of pre-construction site mobilization which will include documentation of any active roost trees to be removed. The report shall describe survey methods, including the time, date, and duration of the survey, identity and qualifications of the surveyor(s), and a list of species observed, a figure showing roost locations observed, and proposed mitigation and exclusion measures. Mitigation and exclusion measures must be developed in coordination with the CPM and CDFG, and approved by the CPM prior to initiation of the measures or project activities that would disturb the roost site. Within 10 days of removal of trees with roost sites, the project owner shall submit a report describing the results of the exclusion, mitigation measures, and tree removal.

SWAINSON'S HAWK NEST TREE MITIGATION AND MONITORING

BIO-11 If pre-construction surveys locate Swainson's hawk nests in trees which are to be removed, the project owner shall implement the following measures to minimize impacts to known Swainson's hawk nests. Tree removal will not occur while the Swainson's hawk nests are active.

1. All active Swainson's hawk nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to project activities will be mitigated by the project owner according to the requirements of the ECCC HCP/NCCP including the following:

    a. Loss of nest non-riparian nest trees will be mitigated by the project owner by, if feasible on-site, planting of 15 saplings for every tree lost with the objective of having at least five mature trees established for every tree lost according to the requirements listed below, AND

    b. Either pay the Conservancy an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve

System for every tree lost according to the requirements listed below; OR

c. The project owner will plant, maintain, and monitor 15 saplings for every tree lost at a site to be approved by the Conservancy (e.g., within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves).

2. The project owner shall meet all ECCC HCP/NCCP requirements for all planting options which include the following:

   a. Tree survival shall be monitored at least annually for five years, then every other year until year 12. All trees lost during the first five years will be replaced. Success will be reached at the end of 12 years if at least five trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least three years without irrigation.

   b. Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk.

   c. Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site).

   d. Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk in the inventory area and as close as possible to high quality foraging habitat.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. If trees with known nests are to be removed while nests are not active, a written report summarizing the results of the pre-construction survey shall be sent to the CPM, the East Contra Costa County Habitat Conservancy (Conservancy), CDFG, and USFWS no less than 15 days prior to the start of ground disturbance which will include documentation of any known nest trees to be removed. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS. The report will include written verification that any compensation fees for of loss of nest trees have been paid to

the Conservancy. Annual Reports will be submitted to the CPM and the Conservancy that document compliance with the ECCC HCP/NCCP requirements for planting and the success of any plantings. Additional copies shall be provided to CDFG and USFWS.

WESTERN BURROWING OWL IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-12 The project owner shall implement the following measures to manage their construction site, and related facilities, in a manner to avoid or minimize impacts to breeding and foraging burrowing owls.

1. The Designated Biologist or Biological Monitors or other agent approved by the CPM, in consultation with the East Contra Costa County Habitat Conservancy (Conservancy), CDFG, and USFWS, shall perform a pre-construction survey of suitable habitat at the project site and a 150-meter (approximately 500-foot) buffer from the perimeter of the proposed footprint (where possible and appropriate based on habitat) within 30 days prior to construction to identify burrowing owls and burrows. Surveys should take place near sunrise or sunset in accordance with CDFG survey guidelines (CBOC 1993). Breeding season surveys (February 1 to August 31) will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. Non-breeding surveys (September 1 to January 31) will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. All potential burrows or burrowing owls will be mapped. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site will be resurveyed. Survey results will only be valid for the season (breeding or non-breeding) during which the survey is conducted.

If burrowing owls are found onsite, the following shall be implemented:

1. During the breeding season (February 1 through August 31), all nest sites that could be disturbed by project construction shall be avoided during the remainder of the breeding season or while the nest is occupied by adults or young as determined by the Designated Biologist.
2. During the breeding season (February 1 through August 31), occupied burrows in designated construction areas or within 250 feet of designated construction areas shall not be disturbed unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

3. During the non-breeding season (September 1 to January 31), occupied burrows in designated construction areas or within 160 feet of designated construction areas shall not be disturbed, if possible.

4. If occupied burrows for burrowing owls are not avoided during the non-breeding season, owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (CDFG 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

Verification: All avoidance and minimization measures related to burrowing owl shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. The project owner shall submit a report to the CPM, the East Contra Costa County Habitat Conservancy (Conservancy), CDFG, and USFWS at least 10 days prior to pre-construction site mobilization that describes when surveys were completed, observations, and mitigation measures to be implemented. Within 30 days after completion of owl passive relocation and monitoring, and the start of construction-related ground disturbance, the project owner shall provide written verification to the CPM, the Conservancy, USFWS, and CDFG that burrowing owl mitigation measures have been completed.

AMERICAN BADGER IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-13 To avoid direct impacts to American badgers, pre-construction surveys shall be conducted concurrent with the San Joaquin kit fox and burrowing owl pre-construction surveys. Surveys shall be conducted as described below:

1. The Designated Biologist or Biological Monitors shall perform pre-construction surveys for badger dens in the project area, including areas within 250 feet of all project facilities, utility corridors, and access roads. If dens are detected each den shall be classified as inactive, potentially active, or definitely active. Den avoidance, monitoring, and destruction methods shall adhere to those impact avoidance and minimization measures prescribed for San Joaquin kit fox (see Condition of Certification **BIO-14**).

Verification: All avoidance and minimization measures related to American badger shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the

Designated Biologist. The project owner shall submit a report to the CPM and CDFG at least 10 days prior to the start of any pre-construction site mobilization that describes when badger surveys were completed, observations, and mitigation measures to be implemented. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS.

SAN JOAQUIN KIT FOX IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-14 The following measures, developed in cooperation with East Contra Costa County Habitat Conservancy (Conservancy), shall be implemented to avoid and minimize impacts to San Joaquin kit fox.

1. The Designated Biologist or Biological Monitors or other agent approved by the CPM, in consultation with CDFG and USFWS, shall perform pre-construction surveys in the project area, in all areas identified in the Conservancy's Planning Survey Report as having suitable breeding or denning habitat, including areas within 250- foot-radius of all project facilities, utility corridors, and access roads within 30 days prior to pre-construction site mobilization to identify San Joaquin kit fox dens. Adjacent parcels under different land ownership shall not be surveyed. Surveys will be conducted in accordance with USFWS survey guidelines (USFWS 1999).

If San Joaquin kit fox and/or suitable dens are found onsite, the following shall be implemented:

Exclusion Zones

If dens are identified in the survey area outside of the proposed disturbance footprint exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances. The following radii are minimums, and if they cannot be followed, the CPM, the Conservancy, USFWS, and CDFG must be contacted:

- Potential den: 50 feet
- Known den: 100 feet
- Natal/pupping den (occupied and unoccupied): the CPM, the Conservancy, USFWS, and CDFG must be contacted

Known den: To ensure protection, the exclusion zone should be demarcated by fencing or stakes and flagging that encircles each den at least 100 feet from den entrance and does not prevent access to the

den by kit foxes. Exclusion zones shall be demarcated with stakes and flagging and should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing or stakes and flagging shall be removed to avoid attracting subsequent attention to the dens.

Potential den: Placement of 4-5 flagged stakes at least 50 feet from the den entrance(s).

Construction and other project activities should be prohibited within these exclusion zones.

Destruction of Dens

Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed.

Potential, Known, and/or Occupied kit fox dens shall not be destroyed unless the Applicant has take authorization from the USFWS which would be provided through participation in the ECCC HCP/NCCP.

Potential, Known, and/or Occupied Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If a natal or pupping den is detected in the survey area, the CPM, USFWS, and CDFG shall be notified immediately. The den shall not be excavated until the pups and adults have vacated and then only after further consultation with CPM, in coordination with the Conservancy, USFWS and CDFG.

If kit fox activity is observed at the den during this initial monitoring period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity.

For dens other than natal or pupping dens, use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities. Energy Commission staff, USFWS, and CDFG encourage hand excavation, but realize that soil conditions may

necessitate the use of excavating equipment. However, extreme caution must be exercised.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist the animal has escaped from the partially destroyed den.

If any den was considered unoccupied, but upon commencement of den destruction determined to be occupied, then destruction shall cease and the CPM, USFWS, and CDFG shall be notified immediately.

Verification: All avoidance and minimization measures related to San Joaquin kit fox shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. The pre-construction survey shall be conducted no more than 30 days prior to the initiation of pre-construction site mobilization on the OGS Project site or sanitary sewer line and transmission line corridors. A written report summarizing the results of the pre-construction survey shall be sent to the CPM, the East Contra Costa County Habitat Conservancy (Conservancy), CDFG, and USFWS within five working days of survey completion and prior to the start of ground disturbance. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS.

WESTERN POND TURTLE IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-15 The following measures shall be implemented to avoid and minimize impacts to western pond turtle.

1. Pre-construction surveys shall be conducted concurrent with the Giant garter snake pre-construction surveys. Surveys shall be conducted as described below in Condition of Certification **BIO-16**.
2. Wildlife exclusion fencing will be installed to protect the riparian habitat along East Antioch Creek in the vicinity of the intersection of the transmission line right-of-way as described under Giant garter snake avoidance and minimization measures (see **BIO-16**).

Verification: All avoidance and minimization measures related to Western pond turtle shall be included in the BRMIMP and implemented. Implementation of

the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. The project owner shall submit a report to the CPM and CDFG at least 10 days prior to the start of any pre-construction site mobilization that describes when Western pond turtle surveys were completed, observations, and mitigation measures to be implemented. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the East Contra Costa County Habitat Conservancy and CDFG.

GIANT GARTER SNAKE IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-16 The following measures, developed in cooperation with East Contra Costa County Habitat Conservancy (Conservancy) shall be implemented to avoid and minimize impacts to Giant garter snake (GGS).

1. The Designated Biologist or a representative approved by USFWS and the CPM shall perform pre-construction surveys in areas identified in the Conservancy's Planning Survey Report as having suitable GGS habitat and 200 feet of adjacent upland as measured from the outer edge of each bank. Surveys will document the extent of suitable habitat in the project area, including all project facilities, utility corridors, and access roads, and document any sighting of GGS.
2. Construction within 200 feet of aquatic features (East Antioch Creek) or within suitable GGS habitat must follow USFWS construction guidelines. The project Applicant shall minimize all construction within 200 feet of aquatic features with suitable GGS habitat to the greatest extent possible. All construction that must occur within 200 feet of aquatic features with potential GGS habitat shall occur within the GGS active period (May 1-October 1).
3. Wildlife exclusion fencing will be installed to protect the riparian habitat along East Antioch Creek in the vicinity of the intersection of the transmission line right-of-way.
4. USFWS shall approve in writing any construction work within GGS habitat that must be conducted outside of this time window (October 1 and April 30).

Verification: All Giant garter snake (GGS) impact avoidance and minimization measures shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. The Designated Biologist or a representative approved by the CPM, in consultation with the East Contra Costa County Habitat Conservancy (Conservancy), CDFG, and USFWS, must survey

the construction area within potential GGS habitat no more than 24 hours prior to the initiation of pre-construction site mobilization in the vicinity the GGS habitat along East Antioch Creek. Another pre-construction survey must be conducted if construction activity ceases for a period of more than two weeks. The project owner shall submit a report to the Conservancy, USFWS, CDFG, and the CPM documenting results of pre-construction surveys within 24 hours of commencement of construction activities. The project owner shall submit a report to the Conservancy, USFWS, CDFG, and the CPM if any GGS are found within work areas no more than 24 hours after the sighting is made. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS.

CALIFORNIA TIGER SALAMANDER IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-17 The following measures, developed in cooperation with East Contra Costa County Habitat Conservancy (Conservancy) shall be implemented to avoid and minimize impacts to California tiger salamander.

1. Wildlife exclusion fencing and silt fencing shall be installed to protect Wetland D, Wetland E, and Wetland F. “Sensitive Resource Area” signage shall also be installed at each wetland prior to pre-construction site mobilization.

Verification: All avoidance and minimization measures related to California Tiger salamander shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS.

CALIFORNIA RED-LEGGED FROG IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-18 The following measures, developed in cooperation with East Contra Costa County Habitat Conservancy (Conservancy) shall be implemented to avoid and minimize impacts to California red-legged frog.

1. Wildlife exclusion fencing will be installed to protect the riparian habitat along East Antioch Creek in the vicinity of the intersection of the transmission line right-of-way as described under Giant garter

snake avoidance and minimization measures prior to pre-construction site mobilization.

Verification: All avoidance and minimization measures related to California red-legged frog shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of construction the project owner shall provide to the CPM a written construction termination report identifying how impact minimization measures have been completed. Additional copies shall be provided to the Conservancy, CDFG, and USFWS.

WETLAND E MONITORING AND ADAPTIVE MANAGEMENT PLAN

BIO-19 The project owner shall develop and implement a Wetland E Monitoring and Adaptive Management Plan (Plan). The plan must include monitoring methods, planting design, responsible parties, long-term management and maintenance requirements, contingency plan, and details on the funding source. The plan must be developed by the project owner in coordination with the CPM and CDFG, consistent with the stated purposes of the 1997 conservation easement on the property. The Plan will include all proposed habitat improvements and enhancement goals, objectives and performance standards developed by the Applicant in coordination with CDFG (CH2MHILL 2010k). Detailed baseline maps which show the current species composition or cover of wetland vegetation as well as current extent of noxious weed cover as determined by standard vegetation sampling methods will be included in the Plan. Sampling methods would also be fully described in the Plan.

For the CPM to deem the enhancements successful:

1. The site will have 75 percent survivorship of planted coast live oak by year five.
2. Surviving trees shall show leader growth for two out of the last three years of monitoring.
3. The site will have 75 percent survivorship of planted upland dune shrubs by year five.
4. The native upland herbaceous species shall be established without reseeding for two out of the last three years of monitoring.
5. The site will not require watering or maintenance other than weed control after year three.
6. The site shall not contain more than five percent invasive exotics (Cal-IPC rating High) after five years.

The project owner shall maintain wildlife habitat value and wildlife use of Wetland E. Any adverse impacts to wetland habitat caused by changes in the duration and extent of ponding or water quality will be addressed by *contingency plans* to be included in the Wetland E Monitoring and Adaptive Management Plan (see **SOIL&WATER-6** for details). Any significant change in species composition or cover of wetland vegetation compared to pre-project conditions (based upon standard vegetation sampling techniques) shall maintain Wetland E as wetland habitat. Annual monitoring reports will be submitted for years 1, 2, 3, 4, and 5, with the first year beginning one year after the habitat improvements are implemented. If habitat improvements are not deemed successful after five years, the project owner will proposed adaptive management measures developed in coordination with the CPM and CDFG to meet required goals, objectives, and performance standards. Annual monitoring reports shall be submitted to the CPM for review and approval for the life of the project.

Verification: At least 60 days prior to the start of any construction-related ground disturbance the project owner shall submit a Draft Wetland E Monitoring and Adaptive Management Plan to the CPM for review and approval, and the California Department of Fish and Game (CDFG), and the CV RWQCB for review and comment. The CPM in consultation with CDFG and the CV RWQCB, will determine the plan's acceptability. At least 15 days prior to the start of any construction-related ground disturbance, the project owner shall provide the CPM with the final version of the Wetland E Monitoring and Adaptive Management Plan that has been reviewed and approved by the CPM.

Habitat improvements shall be initiated no later than 12 months from the start of construction. Within 30 days after completion of project construction, the project owner shall provide to the CPM for review and approval a report identifying which items of the Wetland E Monitoring and Adaptive Management Plan have been completed.

The project owner shall submit annual reports to the CPM, CDFG, and the CV RWQCB describing planting, monitoring, and maintenance activities implemented as well as documentation of compliance with all goals, objectives and performance standards in the Wetland E Monitoring and Adaptive Management Plan. The reports shall fully describe the status of the habitat improvement at the Wetland E conservation area, and shall describe any adaptive management methods implemented. Annual monitoring reports will be submitted to the CPM for review and approval and to CDFG for review and comment for years 1, 2, 3, 4, and 5, with the first year beginning one year after the habitat improvements are implemented. The annual report for years 1, 2, 3, 4, and 5 shall be submitted within 30 days after the anniversary date of the commencement of habitat improvements. If after five years, habitat improvements are not deemed successful, the project owner will develop adaptive management measures in coordination with CPM and CDFG to meet

required goals, objectives, and performance standards. The project owner shall submit an addendum to the CPM for review and approval and to CDFG and CV RWQCB for review and comment prior to implementing adaptive management measures. Annual monitoring reports shall be submitted to the CPM for review and approval and to the CDFG and CV RWQCB for review and comment annually within 30 days of the anniversary date of the commencement of habitat improvements for the life of the project.

ANTIOCH DUNES NATIONAL WILDLIFE REFUGE FUNDING

BIO-20 The project owner shall provide an annual payment to California Wildlife Foundation or other third-party approved by USFWS to assist in noxious weed management and its effects at the Antioch Dunes National Wildlife Refuge. Management activities funded may include but are not limited to: captive breeding and release of Lange's metalmark butterfly; propagation and transplantation of naked-stem buckwheat, Contra Costa wallflower, and Antioch Dunes evening primrose; noxious weed eradication using grazing animals, hand tools, and/or appropriate mechanical equipment. The first annual payment shall be no less than $5,000.78.

Each subsequent annual payment shall be adjusted for inflation in accordance with the Employment Cost Index – West or its successor, as reported by the U.S. Department of Labor's Bureau of Labor Statistics. Payment shall be made annually for the duration of project operation.

The project owner also shall request an annual report from the California Wildlife Foundation or other third-party approved by USFWS documenting how each annual payment required hereunder was used and applied to assist in noxious weed management at the Antioch Dunes National Wildlife Refuge. The project owner shall provide copies of such reports to the CPM within 30 days after receipt. If the CPM determines that the USFWS has determined that the funds are not being applied as specified by this condition, then the project owner or an agent of the owner shall contract with another third party approved by the USFWS to directly implement noxious weed management until the CPM receives verifiable proof that the California Wildlife Foundation is using the funds as required.

Verification: No later than 30 days following the start of project operation, the project owner shall provide written verification to the CPM, USFWS, and CDFG that the first-annual payment was made to California Wildlife Foundation or other third-party approved by USFWS in accordance with this Condition of Certification. The project owner shall provide evidence that it has specified that its annual payment to California Wildlife Foundation or other third-party approved by USFWS can be used only to assist in noxious weed management and remediation of its effects (e.g., activities to support continued survival of Lange's

metalmark butterfly, Contra Costa wallflower, and Antioch Dunes evening primrose) at the Antioch Dunes National Wildlife Refuge as directed by the USFWS.

Thereafter, within 30 days after each anniversary date of the commencement of project operation, the project owner shall provide written verification to the CPM, USFWS, and CDFG that payment has been made to the California Wildlife Foundation or other third-party approved by USFWS in accordance with this Condition of Certification. This verification shall be provided annually for the operating life of the project.

EAST CONTRA COSTA COUNTY HABITAT CONSERVATION PLAN/NATURAL COMMUNITIES CONSERVATION PLAN MITIGATION FEES

BIO-21 The project owner shall pay mitigation fees for temporary and permanent impacts based on the acres of impact (Staff assumes a 1:1 mitigation ratio for temporary and permanent impacts) as a one-time development fee of $227,408 or updated fee as adjusted by the East Contra Costa County Habitat Conservancy (Conservancy), pending the approval date and the Annual Adjustment of mitigation fees. As a Participating Special Entity, the project owner would make a $200,000 contribution to recovery of endangered and threatened species. The project owner would also make a contribution to complementary conservation planning as determined by Conservancy's Governing Board.

Verification: A copy of the receipt of payment issued to Conservancy, verifying the funds have been paid, shall be provided to the CPM within 30 days prior to pre-construction site mobilization.

EAST CONTRA COSTA COUNTY HABITAT CONSERVATION PLAN/NATURAL COMMUNITIES CONSERVATION PLAN CERTIFICATE OF INCLUSION

BIO-22 The project owner shall provide a copy of the final East Contra Costa County Habitat Conservation Plan /Natural Communities Conservation Plan (ECCC HCP/NCCP) Certificate of Inclusion (permit). The terms and conditions contained in the incidental take permit shall be incorporated into the project's BRMIMP and implemented.

Verification: Within five business days of its receipt, and prior to pre-construction site mobilization, the project owner shall submit to the CPM a copy of the East Contra Costa County Habitat Conservancy's Certificate of Inclusion (permit) and verify that the permit terms and conditions are incorporated into the BRMIMP and will be implemented.

BIO-23 The project owner shall provide a copy of any U.S. Fish and Wildlife permit issued for the OGS Project (e.g., Incidental Take Permit). The terms and conditions contained in the permit shall be incorporated into the project's BRMIMP and implemented by the project owner.

Verification: The project owner shall submit to the CPM a copy of the USFWS permit within 15 days of issuance by the USFWS. At this time, the project owner shall also verify that the permit terms and conditions are incorporated into the BRMIMP and will be implemented.

HCP/NCCP Planning Survey Report

East Contra Costa County
Habitat Conservation Plan
Natural Community
Conservation Plan

City of Brentwood
City of Clayton
City of Oakley
City of Pittsburg
Contra Costa County
ECCC Habitat Conservancy

Template prepared by the
ECCC Habitat Conservancy

651 Pine Street, North Wing, 4th Floor
Martinez, CA 94533-0095
Phone: 925/335-1290
Fax: 925/335-1299
www.cocohcp.org

Participating Special Entity Application Form and Planning Survey Report to Comply with and Receive Permit Coverage under the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan

Project Applicant Information:

Project Name: Oakley Generating Station

Project Applicant's Company/Organization: Contra Costa Generating Station LLC

Contact's Name: Greg Lamberg

Contact's Phone: 916-799-9463

Contact's Email: Greg.Lamberg@Radback.com

Mailing Address: Greg Lamberg
Contra Costa Generating Station LLC
P.O. Box 1690
Danville, CA 94526

Project Description:

Lead Planner: Krystal Hinojosa, East Contra Costa County Habitat Conservancy
Contra Costa County, Department of Conservation and Development

Project Location: 6000 Bridgehead Road, Oakley, California

Project APN(s) #: The Oakley Generating Station (OGS or project) site has recently been created from the nearly 500-acre property that is owned by the I.E. du Pont de Nemours Company (DuPont). The DuPont property is a one-owner property with multiple Assessor's Parcel Numbers. DuPont has recently obtained a lot line adjustment to create "Parcel A," the 21.95-acre project site, and two separate neighboring parcels. The larger 210-acre parcel from which the OGS parcel will be created is APN #037-020-012.

Number of Parcels/Units: The project parcel is a single parcel of 21.95 acres. The electrical transmission line route is composed of many individual easement parcels that make up a corridor that is 2.4-miles in length with an 80-foot-wide Pacific Gas and Electric Company (PG&E) easement/right-of-way (ROW). The sanitary sewer force main route is also composed of many individual parcels that make up a corridor that is 0.44 miles in length and that will be constructed in Bridgehead Road and Main Street. OGS will also make temporary use of DuPont property for construction laydown and parking and for soil stockpiling.

Size of Parcel(s): The project parcel is a 21.95-acre site located within the boundary of an existing 210-acre site owned by DuPont. The portion of the DuPont site on which the power plant would be constructed is within an area called the "Western Development Area" and is currently used as a vineyard. An existing 1.6-acre conservation area, which includes a 0.62-acre mitigation wetland (Wetland E), is adjacent to the western property line at Bridgehead Road. The paved construction

laydown area is approximately 6.5 acres, the unpaved construction laydown area is approximately 13 acres, the unpaved soil stockpile and access road area is approximately 5.2 acres, and the paved stockpile and access road area is approximately 4.5 acres. The transmission line ROW and pull sites total approximately 25 acres, and the sanitary sewer force main ROW totals approximately 1.5 acres. The detailed area assessments are included in Section I.

Brief Project Description: The OGS (formerly the Contra Costa Generating Station) is a combined-cycle, natural gas-fired power plant owned by Contra Costa Generating Station LLC. The project will consist of two natural gas-fired combustion turbines with heat recovery steam generators, a steam turbine, air-cooled condenser, and ancillary equipment. Power from the facility will be transmitted 2.4 miles to PG&E's Contra Costa Substation on a new 230-kV single-circuit transmission line. Construction of this line will follow an existing PG&E transmission line ROW and will consist of replacing existing steel-lattice towers with tubular steel poles and reconductoring the line. It will also be necessary to construct a new sanitary sewer force main from the project tie-in location on Bridgehead Road to the gravity main located in Main Street. Construction of this line would be within the Bridgehead Road and Main Street ROWs. The proposed construction worker parking and laydown area for the project will be located east of the proposed project parcel, and soil from the project will be temporarily stockpiled in three areas north of the project parcel.

The project site is located at the intersection of Bridgehead Road and Wilbur Avenue, approximately 3,000 feet south of the San Joaquin River in the City of Oakley, Contra Costa County. The project site is bounded on the west by the PG&E Antioch Terminal, a large natural gas transmission hub; on the north by formerly industrial property belonging to DuPont that has been abandoned; on the east by DuPont's titanium dioxide disposal area; and to the south by a vineyard and the Burlington Northern Santa Fe railroad.

The City of Oakley is presently revising its zoning regulations to match the 2020 General Plan. Under this general plan, the project parcel is designated for "Utility Energy" land use. The corresponding zoning designation for this land use is also called Utility Energy. The project parcel is currently zoned "specific plan"; however, by the City of Oakley. Because a specific plan has not been proposed for the area and because the project parcel has never been specifically zoned by the City of Oakley, which became a city in 1999, the zoning of "heavy industrial" may also apply as a holdover zoning from the County. The remainder of the DuPont site is classified as "business park" or "light industrial." Surrounding land uses consist of industrial, vacant industrial, commercial, and agricultural uses.

Biologist Information:

Biological/Environmental Firm: CH2M HILL

Lead Contact: Rick Crowe

Contact's Phone: 916-296-5525 Fax: 916-991-2842

Contact's Email: rcrowe@ch2m.com

Mailing Address: Rick Crowe
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833-2937

East Contra Costa County HCP/NCCP Planning Survey Report for Oakley Generating Station as a Participating Special Entity

I. Project Overview

Project Proponent:	Contra Costa Generating Station, LLC
Project Name:	Oakley Generating Station
Application Submittal Date:	March 2011 (Updates to June, September, and November 2010 Versions)
Jurisdiction:	☐ Contra Costa County ☒ Participating Special Entity[1] ☐ City of Oakley ☐ City of Pittsburg ☐ City of Clayton ☐ City of Brentwood
Check appropriate Development Fee Zone(s):	☒ Zone I ☒ Zone IV ☐ Zone II ☐ Zone III See Figure 9-1 of the Final HCP/NCCP for a generalized development fee zone map. Detailed development fee zone maps by jurisdiction are available from the jurisdiction or at www.cocohcp.org.
Total Parcel Acreage:	21.95-acre project parcel
Acreage of land to be permanently disturbed[2]:	16.7 acres (See Table I.1)
Acreage of land to be temporarily disturbed[3]:	38.6-acres (See Table I.1)

[1] *Participating Special Entities* are organizations not subject to the authority of a local jurisdiction. Such organizations may include school districts, water districts, irrigation districts, transportation agencies, local park districts, geologic hazard abatement districts, or other utilities or special districts that own land or provide public services.

[2] *Acreage of land permanently disturbed* is broadly defined in the HCP/NCCP to include all areas removed from an undeveloped or habitat-providing state and includes land in the same parcel or project that is not developed, graded, physically altered, or directly affected in any way but is isolated from natural areas by the covered activity. Unless such undeveloped land is dedicated to the Preserve System or is a deed-restricted creek setback, the development fee will apply. The development fees were calculated with the assumption that all undeveloped areas within a parcel (e.g., fragments of undisturbed open space within a residential development) would be charged a fee; the fee per acre would have been higher had this assumption not been made. See Chapter 9 of the HCP/NCCP for details.

[3] *Acreage of land temporarily disturbed* is broadly defined in the HCP/NCCP as any impact on vegetation or habitat that does not result in permanent habitat removal (i.e. vegetation can eventually recover).

Table I.1
Summary of Acreages Involved in the Proposed Project by Project Element (Temporary, Permanent, Urban Habitat, and Exempt Acres)

Project Element	Permanent Disturbance (Acres)	Temporary Disturbance (Acres)	Paved/Urban Surfaces (Acres)	Exempt Acreage (Acres)	Total
Project Site	16.69	0.30	2.82	2.12	21.95
Construction Laydown Area	0.0	13.13	6.48	0.70	20.31
Soil Stockpile Area	0.0	5.00	2.22	0.0	7.22
Access Roads (DuPont Property)	0.0	0.21	2.33	0.0	2.54
T-Line ROW	0.0	18.15	4.20	0.18	22.53
T-Line Pull Sites Outside T-Line ROW	0.0	1.21	0.17	0.0	1.38
T-Line Access Roads Outside T-Line ROW	0.0	0.56	0.48	0.0	1.04
Force Main Sewer Line ROW	0.0	0.0	1.52	0.0	1.52
Total	**16.7**	**38.6**	**20.2**	**3.0**	**78.5**

Project Description

Concisely and completely describe the project and location. Reference and attach a project vicinity map **(Figure 1)** and the project site plans **(Figure 2)** for the proposed project. Include all activities proposed for site, including those disturbing ground (roads, bridges, outfalls, runoff treatment facilities, parks, trails, etc.) to ensure the entire project is covered by the HCP/NCCP permit. Also include proposed construction dates. Reference a City/County application number for the project where additional project details can be found.

City/County Application Number:

Not applicable

Anticipated Construction Date:

Second Quarter 2011 – Third Quarter 2013

Detailed Project Description and Land Cover Types:

Project Site

The project is located in Oakley, eastern Contra Costa County, California at 6000 Bridgehead Road. The project site is located in the northwestern quarter of Section 22, Township 2 North, Range 2 East, Mount Diablo Base and Meridian. Figure 1a is a map of the project vicinity. The proposed project parcel is located on a former DuPont manufacturing facility site (Figure 1b). Figure 2.1 shows the facility site plan and Figures 2.2a and 2.2b show typical elevation views of the project.

The project parcel is in an area of active vineyard agriculture with a central cluster of oak trees. The project parcel is bordered to the north by a narrow row of mature Eucalyptus trees that separates the project parcel from the rest of the former DuPont manufacturing site with intermittent strips of ruderal grassland surrounding the parcel. The western “panhandle” of the project parcel consists of a small conserved wetland, called Wetland E (discussed below). The project parcel consists of 21.95 contiguous acres, 13.94 acres of which are in agricultural production as a vineyard, 1.6 acres of which are the conservation easement for Wetland E,

3.0 acres of ruderal cover, 0.60 acres of non-native woodland, and 2.82 acres of paved surface (i.e., urban classification) (Table I.2a and Table I.2b).

Based on conversations with East Contra Costa County Habitat Conservancy (Conservancy) staff, the 21.95 acres would be considered a permanent impact under the HCP/NCCP, with the exception of the 1.6-acre Wetland E conservation easement and the 0.3-acre area immediately west of the Wetland E conservation easement. ESA and silt fencing will be installed to protect the 1.6-acre Wetland E conservation easement and the only activity in the Wetland E conservation easement will be associated with the enhancement of the easement. Therefore, it is assumed there are no negative project impacts which require mitigation for the conservation easement. The ground disturbance in the area between the Wetland E conservation easement and Bridgehead Road will be limited to minor disturbances associated with the installation of permanent facility fencing and implementation of the Wetland E conservation easement enhancement activities. The disturbed area between the Wetland E conservation easement and Bridgehead Road will be hydroseeded with native grass mix as part of the project within 2 years, therefore, the impacts in this area are considered temporary with the minimum 2 year impact duration (Table I.2b). The Wetland E enhancement activities are discussed later in this section.

Vegetation at the project parcel is vineyard agriculture consisting primarily of wine grapes (*Vitus vinifera*). A cluster of six interior live oak trees (*Quercus wislizeni*) is also present within the vineyard. The remainder of the project parcel (2.68 acres) is vegetated with ruderal species such as ripgut brome (*Bromus diandrus*), redstem stork's bill (*Erodium cicutarium*), miniature lupine (*Lupinus bicolor*), and common deerweed (*Lotus scoparius*). A row of Tasmanian blue gum (*Eucalyptus globulus*) lines the northern edge of the parcel and encompasses approximately 0.6 acres.

Consistent with the City of Oakley's tree removal permitting process, a tree inventory was conducted on February 17, 2010, and October 25, 2010. (Attachment 1) Based on the results of the survey, a total of 18 trees were identified and inventoried for removal within the project site. A total of 6 interior live oaks and 6 almond trees will be removed from the project site, and 6 Eucalyptus trees within the row along the northern edge of the project site will be removed to incorporate a roadway between the parcels on either side. A nesting bird survey will be conducted prior to the removal of the Eucalyptus trees and ESA fencing and silt fencing will be installed prior to the start of construction to protect the remaining Eucalyptus trees (Figure 3a).

An isolated wetland area, constructed in 1996 as mitigation for offsite impacts related to the Lauritzen Yacht Harbor, is adjacent to and part of the western end of the project parcel. The entire conservation easement area is 1.6 acres in size. The wetland receives runoff from the adjacent vineyard and from portions of the DuPont property. Common tule (*Schoenoplectus acutus*) and common cattail (*Typha latifolia*) are the dominant species present in the open water portion of the 0.62-acre wetland, while willows (*Salix lasiolepis*) dominate the narrow slope between the edge of water and top of the bank. The wetland easement is isolated from other wetlands, and hydrology is supported by direct precipitation, sheetflow runoff from Bridgehead Road and the PG&E Antioch Terminal, and surface water inputs from the project parcel.

This wetland, known as Wetland E, was delineated as part of a wetland delineation study of the entire DuPont property in 2006 (DuPont Engineering, 2007; 2008). The U.S. Army Corps of Engineers (USACE) declared this wetland to be non-jurisdictional because it lacks a connection to jurisdictional waters (i.e., is considered an isolated wetland). (Dadey, 2008) However, this wetland is under perpetual conservation easement. The Applicant has designed the OGS stormwater drainage system as a system of bioswales, in accordance with the Contra Costa County C.3 drainage design requirements and in consultation with the California Department of Fish and Game (CDFG), to ensure that existing drainage from the project parcel is not altered in a way that impairs this wetland.

The area within the Wetland E conservation easement will be protected by ESA fencing and silt barriers. Furthermore, the Applicant has also committed to enhance the quality of the Wetland E

conservation easement by implementing the biological enhancements listed below. The proposed enhancements are also presented in Figure 2.3:

- **Plant upland dune vegetation (~0.3 acre)—**The upland dune area is currently dominated by non-native grasses and herbs including noxious weeds. Locally collected and grown revegetation stock will be planted, maintained, and monitored for success for 5 years. Perennial herbs and shrubs will be planted as nursery-grown plugs on 2- to 3-foot centers and clustered by species. Native annual seed mixtures will be hand broadcast in the interspaces. Noxious weeds including pampas grass, yellow star thistle, and Russian thistle will be removed from the site. Replacement plantings will include native upland dune species (similar to the species in the Antioch Dunes National Wildlife Refuge) such as *Lupinus albifrons*, *Eriogonum nudum auriculatum*, *Lotus scoparius*, *Eschscholzia californica*, *Senecio douglasii*, *Gutierrezia californica*, *Heterotheca grandiflora*, *Clarkia unguiculata,* and *Croton californica.*

- **Replace non-native trees with coast live oak—**Introduced trees such as almond and tree-of-heaven will be removed and replaced with coast live oak.

- **Include native plants in the landscape screening plan required as a condition of certification by the CEC—**A fast-growing landscape screen will consist of 15-gallon coast live oak, underlain by 10-gallon evergreen shrubs (*Arctostaphylos manzanita*, *Fremontodendron californicum*, *Heteromeles arbutifolia* and *Myrica californica*), and 3-gallon plantings of small thorny evergreen shrubs (*Rosa californica* and *Mahonia pinnata*).

The stormwater drainage plan and proposed biological enhancements were submitted to the CDFG as part of the *Wetland E Management Plan for the Oakley Generating Station – Updated June 2010.* (CEC, 2010) The CDFG reviewed the proposed management plan and responded that it agreed with the proposed approach and goals for preserving the viability of Wetland E (CEC, 2010). Therefore, it is assumed that there are no adverse permanent or temporary biological impacts expected to occur within the Wetland E conservation easement which require mitigation under the HCP/NCCP. A complete copy of the proposed Wetland E conservation easement enhancement plan is included in Attachment 2.

As described in Chapter 9 of the ECCC Habitat Conservation Plan and Natural Community Conservation Plan (ECCC HCP/NCCP, 2006), areas categorized as urban are exempt from paying mitigation fees. Based on conversations with Conservancy staff, areas protected by ESA fencing and silt fencing are also exempted from mitigation fees. Therefore, the total permanent impact area that would require mitigation would be 16.7 acres (Table I.2a). The total temporary impact area that would require mitigation would be 0.3 acres (Table I.2b). The entire project parcel would be located within Development Fee Zone I.

Table I.2a
Permanent Project Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Fee Zone
Non-Native Woodland	0.60	0.52	0.08	I
Ruderal	2.68	0.0	2.68	I
Urban	2.82	0.0	0.0	I
Vineyard	13.94	0.0	13.94	I
Wetland E Conservation Easement	1.6	1.6	0.0	
Total (Fee Zone I)	**21.64**	**2.12**	**16.70**	

Table I.2.b
Temporary Project Area Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Ruderal	0.30	0.0	0.30	2	I
Total (Fee Zone I)	**0.30**	**0.0**	**0.30**	**2**	

Construction Laydown Area

The proposed construction laydown area, construction parking, and stockpile areas are also located on the former DuPont manufacturing facility site (Figure 1b). The proposed construction laydown area is located east of the proposed project site and consists of DuPont's former titanium dioxide disposal site, which is approximately 13.22 acres of barren ground and ruderal vegetation, and a 6.48–acre paved area. A row of mature Eucalyptus trees is present along the southwest and southern boundary of the paved area. Several Eucalyptus trees are also present along the top of a berm near the eastern edge of the paved area. ESA and silt fencing will be installed around the row of Eucalyptus trees and the group of trees growing in the ruderal grasslands (Figure 3a). Therefore, no tree removal is expected as part of the preparation of the construction laydown area. The construction laydown area will be accessed via the new entrance lane extending from Bridgehead Road, just south of the intersection of Bridgehead Road and Wilbur Avenue (Figure 3a).

Assuming the existing paved areas and the areas protected by ESA fencing do not require mitigation, the mitigation required for the total temporary construction laydown impact would be 13.13 acres (Table I.3). The entire construction laydown parcel would be located within Development Fee Zone I and it is assumed the disturbance and recovery would be approximately 4 years. Upon completion of the project, the unpaved areas, with the exception of the titanium dioxide disposal site, will be hydroseeded with native grass mix. The surface of the titanium dioxide disposal area will remain exposed, similar to the existing condition. The paved surfaces will remain paved. The best mitigation practices (BMPs) to be used during construction are discussed in Section IV.

Table I.3
Temporary Construction Laydown Area Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Non-Native Woodland	0.61	0.57	0.04	4	I
Ruderal	13.22	0.13	13.09	4	I
Urban	6.48	0.0	0.0	**4**	I
Total (Fee Zone I)	**20.31**	**0.70**	**13.13**	**4**	

Soil Stockpile Areas

Soil from the project parcel will be temporarily stockpiled in three areas north of the project (Figure 3a). Stockpile area 1 (2.22 acres) will be located on an existing paved surface. Stockpile areas 2 (2.68 acres) and 3 (2.32 acres) are located further north in ruderal areas on either side of a row of salt cedar (*Tamarix* sp.). No tree removal is expected as part of the preparation of the soil stockpile areas, with the exception of some tree trimming to gain access to Stockpile Area 3. Stockpile area 2 is located in a regularly disked field south of the row of salt cedar trees and is 84 feet north of Wetland F (0.37-acre). Stockpile area 3 is north of the trees and is 46 feet south of Wetland D (0.38-acre). Common ruderal vegetation in these areas includes rat-tail fescue

(*Vulpia myuros*), redmaids (*Calandrinia ciliata*), old-man-in-the-Spring (*Senecio vulgaris*), horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), Spanish clover (*Acmispon americanus*), longspine sandbur (*Cenchrus longispinus*), Russian thistle (*Salsola tragus*) and puncture vine (*Tribulus terrestris*). Wetlands F and D are both classified as palustrine emergent and are outside the project parcel, the construction laydown area, and the soil stockpile areas. The soil stockpile areas will be accessed via existing paved and unpaved surfaces on the former DuPont facility.

Assuming the paved areas do not require mitigation, the mitigation required for the temporary stockpile impacts would be 5.0 acres (Table I.4a). It is estimated the access roads from the project site to the stockpile areas, which cross the DuPont facility, (Figure 3a) will be approximately 2.33 acres of paved surfaces and 0.21 acres of ruderal grassland (Table I.4b). The entire soil stockpile areas would be located within Development Fee Zone I and the total disturbance and recovery period is expected to be less than 2 years.

During excavation of the project site, stockpile areas 2 and 3 will be bermed with soil from the project. The berm will be placed on the perimeter of the stockpiles, and the berm will be hydroseeded to help stabilize the berm. Geotextiles and mats may be used with other BMPs to cover the stockpiles temporarily if materials are being added during the rainy season or during the windy dry season to prevent erosion of the stockpiles. Upon completion of the excavation activities, the soil stockpiles will be stabilized and hydro-seeded with native grass mix. After this takes place, CCGS LLC will submit a letter to the California Energy Commission (CEC) Construction Compliance Manager (CPM) indicating that DuPont will assume responsibility to maintain the stockpiles in accordance with the approved soil stockpile BMP plan (Condition of Certification SOIL&WATER-1) (CEC, 2011). After CPM transfer request approval, the stockpiles will be owned and maintained by DuPont in accordance with all applicable BMPs. The BMPs to be used are discussed in Section IV.

Table I.4a
Temporary Soil Stockpile Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Ruderal	5.00	0.0	5.00	2	I
Urban	2.22	0.0	0.0	2	I
Total (Fee Zone I)	**7.22**	**0.0**	**5.00**	**2**	

Table I.4b
Temporary Access Road Impacts by Habitat Cover Category (Access Roads on DuPont Property)

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Ruderal	0.21	0.0	0.21	2	I
Urban	2.33	0.0	0.0	2	I
Total (Fee Zone I)	**2.54**	**0.0**	**0.21**	**2**	

Electrical Transmission Line Route

The proposed 230-kV electrical transmission line will replace an existing 60-kV transmission line that runs approximately 2.4 miles south and west from OGS to the PG&E Contra Costa substation. The new 230-kV transmission line would require the replacement of 17 existing steel-

lattice towers with 20 tubular steel poles and the extension of one existing 230-kV transmission tower (Figures 3a-3l). A plan view of the existing lattice transmission tower bases and the proposed steel pole bases are included in Figure 2.4. The existing 230-kV transmission tower will be extended 40 feet to allow clearance for the new 230-kV line associated with the project (Figure 3h). The existing ROW for the transmission line is 80 feet wide. Boring and installation of 16-square-foot concrete foundations at each of the tower locations will be required to provide subsurface support for the steel poles. Because the transmission line ROW is currently impacted by the existing towers, no additional permanent impacts are expected to result from construction of the proposed towers. Construction will require approximately 400 square feet of temporary vegetation clearance in each area where a transmission tower will be located. However, the Applicant proposes to provide temporary impact mitigation for the entire existing 80-foot ROW to provide flexibility for the final installation design.

Within the City of Oakley, the transmission line crosses areas zoned for utility and commercial uses. Within the City of Antioch, the alignment is within areas zoned as Planned Development Districts (P-D) associated with the State Route 4 Industrial Frontage Focus Area (LSA, 2003). Although a portion of the transmission line route is within the City of Antioch, the project may be extended coverage through the ECCC HCP/NCCP as a Participating Special Entity.

The current 60-kV towers are located in a variety of land uses, including active industrial and commercial properties and paved roadways (categorized as urban), landscaped residential areas, vacant lots, and abandoned agricultural areas characterized by ruderal vegetation (categorized as ruderal), and active vineyard agricultural (categorized as vineyard), (Figures 3a through 3l). The transmission line right-of way also includes a small portion of riparian habitat and open water associated with East Antioch Creek (Figure 3j). This area will not be disturbed during tower installation and removal, but is located about 120 feet from an existing tower. Therefore, the area will be protected with ESA signage and sediment control BMPs to ensure no disturbance occurs in this area during construction activities (Figure 3j). The upgrade will be completed and the ROW will be restored within 3 years. The transmission tower locations are presented in Figures 3a through 3l and Figure 4.

As previously noted, a tree inventory was conducted on February 17, 2010, and October 25' 2010.(Attachment 1) Based on the results of the survey, 10 trees were identified and inventoried for removal within the transmission line route. One of the 10 trees indentified (Interior live oak) is protected under the City of Oakley Tree Ordinance. However, the tree is located within an electric utility easement, and is therefore exempt from the ordinance under Permit Exceptions (Code Section 9.1.1114.e.f.1). Another one of the 10 trees indentified (Interior live oak) is protected under the City of Antioch Tree Ordinance. A tree permit will be obtained and compensatory mitigation will be provided prior to tree removal.

Assuming the paved surfaces and areas protected by ESA and silt fencing do not require mitigation, the mitigation required for the temporary transmission line corridor impacts would be 18.15 acres (Table I.5). Approximately 3.52 acres are located in Development Fee Zone I. Although the City of Antioch is not a Permittee and does not have a designated fee zone, the HCP/NCCP uses a Zone IV fee schedule for PSE projects in the City of Antioch. Therefore, the remaining 14.63 acres will be located within Development Fee Zone IV. It is assumed the disturbance and recovery would take place in approximately 3 years. To avoid permanent impacts, the areas disturbed during the installation of 230-kV transmission line will be re-contoured and hydro-seeded to restore the nesting and foraging habitats to their current condition. A summary of the re-vegetation plan for each of the tower locations is included in Attachment 3. The BMPs to be used during construction are discussed in Section IV.

Table I.5
Temporary Transmission Line Corridor Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Ruderal	1.23	0.0	1.23	3	I
Urban	1.77	0.0	0.0	3	I
Vineyard	2.29	0.0	2.29	3	I
Riparian	0.0	0.0	0.0	3	I
Total (Fee Zone I)	**5.29**	0.0	**3.52**	**3**	
Ruderal	11.93	0.0	11.93	3	IV
Urban	2.43	0.0	0.0	3	IV
Vineyard	2.70	0.0	2.70	3	IV
Riparian	0.18	0.18	0.0	3	IV
Total (Fee Zone IV)	**17.24**	**0.18**	**14.63**	**3**	

Transmission Line Pull Sites

The proposed transmission line pull and tensioning sites are located in a variety of land uses, including active industrial and commercial properties (categorized as urban), landscape residential/ruderal areas (categorized as ruderal), active vineyard agricultural (categorized as vineyard), and disturbed ruderal areas adjacent to the PG&E Contra Costa Substation (Figures 3b, 3f, and 3l). The areas in Table I.6a and I.6b represent the transmission pull site and access road areas outside the 80 foot transmission line ROW (see previous discussion for transmission line acreages). Note the pull site access road through the vineyards on Figure 3f was classified as an urban land use because the road is currently used as an agricultural access road.

Assuming the urban areas do not require mitigation, the mitigation required for the temporary transmission line pull site impacts outside the existing T-line ROW would be 1.21 acres (Table I.6a). Approximately 0.33 acres are located in Development Fee Zone I. The remaining 0.88 acres will be located within Development Fee Zone IV. The mitigation required for the temporary transmission line pull site access road impacts outside the existing T-line ROW would be 0.56 acres (Table I.6b). Approximately 0.006 acres are located in Development Fee Zone I. The remaining 0.55 acres will be located within Development Fee Zone IV. It is assumed the disturbance and recovery would take place in approximately 3 years. The pull and tensioning sites will be re-contoured and restored to existing conditions following project construction. The re-vegetation plan for the pulling and tensioning sites will be similar to the transmission line corridor discussed above. The BMPs to be used during construction are discussed in Section IV.

Table I.6a
Temporary Transmission Line Pull Site Impacts Outside the Existing 80-foot T-Line ROW by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Ruderal	0.09	0.0	0.09	3	I
Vineyard	0.24	0.0	0.24	3	I
Total (Fee Zone I)	**0.33**	**0.0**	**0.33**	**3**	
Ruderal	0.88	0.0	0.88	3	IV
Urban	0.17	0.0	0.0	3	IV
Total (Fee Zone IV)	**1.05**	**0.0**	**0.88**	**3**	

Table I.6b
Temporary Transmission Line Access Roads Outside the Existing 80-foot T-Line ROW by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Years of Disturbance (minimum is 2 years per guidelines)	Fee Zone
Urban	0.45	0.0	0.0	3	I
Vineyard	0.006	0.0	0.006	3	I
Total (Fee Zone I)	**0.46**	**0.0**	**0.006**	**3**	
Urban	0.029	0.0	0.0	3	IV
Ruderal	0.55	0.0	0.55	3	IV
Total (Fee Zone IV)	**0.58**	**0.0**	**0.55**	**3**	

Sanitary Sewer Force Main Corridor

A portion of the existing sanitary sewer extending from the project tie-in location on Bridgehead Road to the gravity main located in Main Street would have insufficient capacity for the project's sanitary sewer discharge. For this reason, OGS will construct a dedicated project sanitary sewer force main from the project site to an interconnection point in Main Street (Figures 3a through 3d). The new sanitary sewer will extend south from an interconnection point in Bridgehead Road for 0.33 miles to Main Street. It will then turn east and run for 0.11 miles to the interconnection point with Ironhouse Sanitary District's gravity main. The existing ROW assumed in the Habitat Survey for the force main is 30 feet wide. The existing force main is located under the paved road surface.

There are thin strips of ruderal vegetation along the sides of the road that consist of ripgut brome (*Bromus diandrus*), yellow star thistle (*Centaurea solstitialis*), Italian ryegrass (*Lolium multiflorum*), spiny sowthistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), and wild oats (*Avena barbata*). Vegetation along the roadsides appears to be routinely sprayed with herbicide for weed control and fire suppression. In addition to the ruderal herbaceous vegetation, several trees are present along the shoulders of Bridgehead Road, including interior live oak (*Quercus wislizeni*), almond (*Prunus dulcis*), tree of heaven (*Ailanthus altissima*), and black walnut (*Juglans nigra*). The majority of these trees are less than 20 feet in height and there is evidence of routine trimming near the existing power lines that run adjacent to Bridgehead Road. No tree removal is expected as part of the force main installation.

It is assumed the force main will primarily impact areas within the existing paved roadway and that the ruderal areas impacted (less than 1.0 acre) are marginal areas already impacted by routine roadside maintenance. Furthermore, the upgrade will be completed and the ROW will be restored within one year. The pavement will be restored in Bridgehead Road and Main Street when construction is complete. Therefore, it is concluded that no mitigation will be required for the installation of the force main (Table I.7).

Table I.7
Temporary Force Main Impacts by Habitat Cover Category

Habitat Cover	Total Area (Acres)	Area Inside ESA Fencing (Acres)	Mitigation Acres Required	Fee Zone
Urban	1.52	0	0	I
Total (Fee Zone I)	**1.52**	**0**	**0**	**I**

II. Existing Conditions and Impacts

Land Cover Types

In completing the checklist in Table 1, click in the appropriate fields and type the relevant information. Please calculate acres of terrestrial land cover types to nearest tenth of an acre. Calculate the areas of all jurisdictional wetlands and waters land cover types to the nearest hundredth of an acre. If the field is not applicable, please enter N/A. The sum of the acreages in the *Acreage of land to be "permanently disturbed" and "temporarily disturbed" by project* column should equal the total impact acreage listed above.

Land cover types and habitat elements identified with an ([a]) in Table 1 require identification and mapping of habitat elements for selected covered wildlife species. In Table 2a and 2b below, check the land cover types and habitat elements found in the project area and describe the results. Insert a map of all land cover types present onsite and other relevant features overlaid on an aerial photo below as Figure 3.

Table 1
Land Cover Types on the Project Site as Determined in the Field and Shown in Figure 3.

Land Cover Type (acres, except where noted)	Impact Acres on the following segments of the Project: Project Site, Laydown Areas, and Soil Stockpile Areas		Impacts on the Electrical Transmission Line Route, Pull Sites, and Force Main	
	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]
Grassland[a]				
☐ Annual grassland	NA	NA	NA	NA
☐ Alkali grassland	NA	NA	NA	NA
☒ Ruderal	2.7-acres	18.6-acres	NA	14.7-acres
☐ **Chaparral and scrub**	NA	NA	NA	NA
☐ **Oak savanna[a]**	NA	NA	NA	NA
☐ **Oak woodland**	NA	NA	NA	NA
Jurisdictional wetlands and waters				
☐ Riparian woodland/scrub	NA	NA	NA	NA
☐ Permanent wetland[a]	NA	NA	NA	NA
☐ Seasonal wetland[a]	NA	NA	NA	NA
☐ Alkali wetland[a]	NA	NA	NA	NA
☐ Aquatic (Reservoir/ Open Water)[a]	NA	NA	NA	NA
☐ Slough/Channel[a]	NA	NA	NA	NA
☐ Pond[a]	NA	NA	NA	NA
☐ Stream (acres) [a, d]	NA	NA	NA	NA
☐ Total stream length (feet) [a, d]	NA	NA	NA	NA

Table 1
Land Cover Types on the Project Site as Determined in the Field and Shown in Figure 3.

Land Cover Type (acres, except where noted)	Impact Acres on the following segments of the Project: Project Site, Laydown Areas, and Soil Stockpile Areas		Impacts on the Electrical Transmission Line Route, Pull Sites, and Force Main	
	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]
Stream length by width category				
☐ ≤ 25 feet wide	NA	NA	NA	NA
☐ > 25 feet wide	NA	NA	NA	NA
Stream length by type and order[e]				
☐ Perennial	NA	NA	NA	NA
☐ Intermittent	NA	NA	NA	NA
☐ Ephemeral, 3rd or higher order	NA	NA	NA	NA
☐ Ephemeral, 1st or 2nd order	NA	NA	NA	NA
Irrigated agriculture[a]				
☐ Cropland	NA	NA	NA	NA
☐ Pasture	NA	NA	NA	NA
☐ Orchard	NA	NA	NA	NA
☒ Vineyard	13.9-acres	NA	NA	5.2-acres
Other				
☒ Nonnative woodland	0.08-acres	0.04-acres	NA	NA
☐ Wind turbines	NA	NA	NA	NA
Developed*				
☒ Urban	2.8-acres	11.0-acres	NA	6.4-acres
☐ Aqueduct	NA	NA	NA	NA
☐ Turf	NA	NA	NA	NA
☐ Landfill	NA	NA	NA	NA
Uncommon Vegetation Types (subtypes of above land cover types)				
☐ Purple needlegrass grassland	NA	NA	NA	NA
☐ Wildrye grassland	NA	NA	NA	NA
☐ Wildflower fields	NA	NA	NA	NA
☐ Squirreltail grassland	NA	NA	NA	NA
☐ One-sided bluegrass grassland	NA	NA	NA	NA
☐ Serpentine grassland	NA	NA	NA	NA
☐ Saltgrass grassland (= alkali grassland)	NA	NA	NA	NA

Table 1
Land Cover Types on the Project Site as Determined in the Field and Shown in Figure 3.

Land Cover Type (acres, except where noted)	Impact Acres on the following segments of the Project: Project Site, Laydown Areas, and Soil Stockpile Areas		Impacts on the Electrical Transmission Line Route, Pull Sites, and Force Main	
	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]	Acreage of Land to be "Permanently Disturbed" by Project[b]	Acreage of Land to be "Temporarily Disturbed" by Project[b]
☐ Alkali sacaton bunchgrass grassland	NA	NA	NA	NA
☐ Other uncommon vegetation types (please describe)	NA		NA	NA
Uncommon Landscape Features or Habitat Elements				
☐ Rock outcrop	NA	NA	NA	NA
☐ Cave[a]	NA	NA	NA	NA
☐ Springs/seeps	NA	NA	NA	NA
☐ Scalds	NA	NA	NA	NA
☐ Sand deposits	NA	NA	NA	NA
☐ Mines[a]	NA	NA	NA	NA
☐ Buildings (bat roosts) [a]	NA	NA	NA	NA
☒ Potential nest sites (trees or cliffs) [a]	NA	NA	NA	NA
TOTAL (*Developed acre types)	2.8-acres	11.0-acres	0.0-acres	6.4-acres
TOTAL (Acre to be impacted, minus the developed acre types)	16.7-acres	18.64-acres	0.0-acres	19.9-acres

[a] Designates habitat elements that may trigger specific survey requirements and/or best management practices for key covered wildlife species. See Chapter 6 in the HCP/NCCP for details.

[b] See Section 9.3.1 of the HCP/NCCP for a definition of "permanently disturbed" and "temporarily disturbed." In nearly all cases, all land in the subject parcel is considered permanently disturbed.

[c] Dedication of land in lieu of fees must be approved by the local agency and the Implementing Entity before they can be credited toward HCP/NCCP fees. See Section 8.6.7 on page 8-32 of the Plan for details on this provision. Stream setback requirements are described in Conservation Measure 1.7 in Section 6.4.1 and in Table 6-2.

[d] Specific requirements on streams are discussed in detail in the HCP/NCCP. Stream setback requirements pertaining to stream type and order can be found in Table 6-2. Impact fees and boundary determination methods pertaining to stream width can be found in Table 9-5. Restoration/creation requirements in lieu of fees depend on stream type and can be found in Tables 5-16 and 5-17.

[e] See glossary (Appendix A) for definition of stream type and order.

Field-Verified Land Cover Map

Insert field-verified land cover map. The map should contain all land cover types present on-site. The map should be representative of an aerial photo. Identify all pages of the field-verified land cover map as **(Figure 3a). Please attach representative photos of the project site (Figure 3b).**

See attached Figures 3a-3l, Land Cover Survey Maps.

Jurisdictional Wetlands and Waters

Jurisdictional wetlands and waters are defined on pages 1-18 and 1-19 of the Final HCP/NCCP as the following land cover types: permanent wetland, seasonal wetland, alkali wetland, aquatic, pond, slough/channel, and stream. (It should be noted that definitions of these features differ for state and federal jurisdictions.) If you have identified any of these land cover types to be present on the project site in Table 1, complete the section below.

Indicate agency that certified the wetland delineation:

☒ USACE,(Attachment 4) ☐ RWQCB, or ☐ the ECCC Habitat Conservancy.

☐ Wetland delineation is attached (Jurisdictional Determination)

Provide any additional information on Impacts to Jurisdictional Wetland and Waters below.

Project Parcel

An isolated wetland area, constructed in 1996 as mitigation for offsite impacts related to the Lauritzen Yacht Harbor, is adjacent to and part of the western end of the project parcel. The entire conservation easement area is 1.6 acres in size. The wetland receives runoff from the adjacent vineyard and from portions of the DuPont property. Common tule (*Schoenoplectus acutus*) and common cattail (*Typha latifolia*) are the dominant species present in the 0.62-acre wetland, while arroyo willows (*Salix lasiolepis*) dominate the narrow slope between the edge of water and top of the bank. The wetland easement is isolated from other wetlands, and hydrology is supported by direct precipitation, sheetflow runoff from Bridgehead Road and the PG&E Antioch Terminal, and surface water inputs from the project parcel.

This wetland, known as Wetland E, was delineated as part of a wetland delineation study of the entire DuPont property in 2006 (DuPont Engineering, 2007; DuPont Engineering, 2008). The USACE declared this wetland to be non-jurisdictional because it lacks a connection to jurisdictional waters (i.e., an isolated wetland) (Dadey, 2008). However, this wetland is under perpetual conservation easement. The Applicant has designed the stormwater drainage system as a system of bioswales, in accordance with the Contra Costa County C.3 drainage design requirements and in consultation with CDFG, to ensure that existing drainage from the project parcel is not altered in a way that impairs this wetland.

Transmission Line Route

The transmission line will traverse East Antioch Creek; (see Figure 3j, Land Cover Habitat Survey); however, the nearest tower replacement and removal will take place 120-feet up slope from this feature. East Antioch Creek eventually flows into Lake Alhambra and then into the San Joaquin River. Access to the tower areas will be by an existing paved and earthen walking trail that crosses East Antioch Creek via a culvert. It is expected that ESA fencing will be installed to protect the riparian and creek habitat in this area. Therefore, there will be no impact to East Antioch Creek or its associated riparian area.

Species-Specific Planning Survey Requirements

Based on the land cover types found on-site and identified in Table 1, check the applicable boxes in Table 2a then provide the results of the planning surveys below. In Table 3 check corresponding preconstruction survey or notification requirements that are triggered by the presence of particular landcover types or species habitat elements as identified in Table 2a. The species-specific planning survey requirements are described in more detail in Section 6.4.3 of the HCP/NCCP.

Table 2a
Species-Specific Planning Survey Requirements Triggered by Land Cover Types and Habitat Elements in the Project Area Based on Chapter 6 of the Final HCP/NCCP

Land Cover Type in the project area?	Species	Habitat Element in the project area?	Planning Survey Requirement
☒ Grasslands, oak savanna, agriculture, ruderal	San Joaquin kit fox	Assumed if within modeled range of species	Identify and map potential breeding and denning habitat and potential dens if within modeled range of species (see Appendix D of HCP/NCCP).
	Western burrowing owl	Assumed	Identify and map potential breeding habitat.
☒ Aquatic (ponds, wetlands, streams, slough, channels, & marshes)	Giant garter snake	☒ Aquatic habitat accessible from San Joaquin River	Identify and map potential habitat.
	California tiger salamander	☒ Ponds and wetlands in grassland, oak savanna, oak woodland ☐ Vernal pools ☐ Reservoirs ☐ Small lakes	Identify and map potential breeding habitat. Document habitat quality and features. Provide Implementing Entity with photo-documentation and report.
	California red-legged frog	☒ Slow-moving streams, ponds, and wetlands	Identify and map potential breeding habitat. Document habitat quality and features. Provide Implementing Entity with photo-documentation and report.
☐ Seasonal wetlands	Covered shrimp*	☐ Vernal pools ☐ Sandstone rock outcrops ☐ Sandstone depressions	Identify and map potential breeding habitat.

Table 2a
Species-Specific Planning Survey Requirements Triggered by Land Cover Types and Habitat Elements in the Project Area Based on Chapter 6 of the Final HCP/NCCP

Land Cover Type in the project area?	Species	Habitat Element in the project area?	Planning Survey Requirement
Any	Townsend's big-eared bat	☐ Rock formations with caves ☐ Mines ☐ Abandoned buildings outside urban areas	Map and document potential breeding or roosting habitat.
	Swainson's hawk	☒ Potential nest sites (trees within species' range usually below 200')	Inspect large trees for presence of nest sites.
	Golden eagle	☒ Potential nest sites (secluded cliffs with overhanging ledges; large trees)	Document and map potential nests.

*Vernal pool fairy shrimp, vernal pool tadpole shrimp, longhorn fairy shrimp, and midvalley fairy shrimp.

Results of Species-Specific Planning Surveys Required in Table 2a

1. Describe the results of the planning survey conducted as required in Table 2a. Planning surveys will assess the location, quantity, and quality of suitable habitat for specified covered wildlife species on the project site. Covered species are assumed to occupy suitable habitat in impact areas and mitigation is based on assumption of take.

Biological Surveys

Biological field surveys of the project parcel, construction laydown areas, stockpile areas, the transmission line route, and the force main were conducted by the following CH2M HILL biologists: Michael Clary on March 4 and April 13, 2009; Dan Williams on April 13, 2009; and Richard Crowe on January 15, February 17, April 22, August 5, and October 22, 2010. Botanical surveys of the project parcel, construction laydown areas, stockpile areas, and the transmission line route were performed by consulting botanist Virginia Danes on March 4, 2009, and by CH2M HILL botanist Russell Huddleston on April 22, and October 22, 2010.

Biological resources evaluated for project impacts included plant communities, wildlife habitat, wetlands, and special-status species within the temporary and permanent project site and transmission line and force main ROW. Information obtained during the literature review and field surveys was used to determine which special-status species might have the potential to occur within the project parcel and along the transmission line and force main ROWs. Information on species status, habitat preferences, geographic distribution, elevation range, and known locations near the project site was researched before starting the field surveys.

Habitat and plant community surveys were conducted within a 1-mile radius of the proposed project parcel and within 1,000 feet of the proposed single-pole electrical transmission tower footings and within the ROW for the force main. Plant community and wildlife habitat assessments were conducted within the survey area to determine whether sensitive habitats occur within or near the project parcel, electrical transmission towers, or within the force main ROW. A cumulative wildlife species observed during biological surveys is included as Attachment 5.

San Joaquin Kit Fox

The San Joaquin kit fox is a federally listed endangered species and a California state listed threatened species. The ECCC HCP/NCCP states that San Joaquin kit fox may occur in a variety of habitats, including grasslands, scrublands, vernal pool areas, alkali meadows, and playas, and in an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands (U.S. Fish and Wildlife Service [USFWS], 1998). They prefer habitats with loose-textured soils (Grinnell et al., 1937; Hall, 1946; Egoscue, 1962) that are suitable for digging, but they occur on virtually every soil type. Dens are generally located in open areas with grass or grass and scattered brush and seldom occur in areas with thick brush. Preferred sites are relatively flat, well-drained terrain (USFWS, 1998; Roderick and Mathews, 1999). They are seldom found in areas with shallow soils due to high water tables (McCue et al., 1981) or impenetrable bedrock or hardpan layers (O'Farrell and Gilbertson, 1979; O'Farrell et al., 1980). However, kit foxes may occupy soils with a high clay content where they can modify burrows dug by other animals such as ground squirrels (*Spermophilus beecheyi*) (Orloff et al., 1986). In the northern part of its range (including San Joaquin, Alameda, and Contra Costa Counties), where most habitat on the valley floor has been eliminated, kit foxes now occur primarily in foothill grasslands (Swick, 1973; Hall, 1983; USFWS, 1998), valley oak savanna, and alkali grasslands (Bell, 1994). Less frequently, they occur adjacent to and forage in tilled and fallow fields and irrigated row crops (Bell, 1994). Kit foxes will den within small parcels of native habitat that is surrounded by intensively maintained agricultural lands (Knapp, 1978) and is adjacent to dryland farms (Jensen, 1972; Orloff et al., 1986; USFWS, 1998).

The ECCC HCP/NCCP indicates that the project parcel is adjacent to the reported range of this species and is within modeled potential habitat. The nearest reported San Joaquin kit fox siting is 5 miles southwest of the project parcel in non-native annual grassland containing a small drainage (CNDDB, 2009).

No San Joaquin kit foxes were observed on the project site or within the transmission line and force main survey areas; however, potential habitat for this species is present in ruderal grasslands and vineyards in the areas surveyed. A potential burrow was observed in a berm associated with a row of Eucalyptus trees near the eastern edge of the laydown area. This burrow has been observed collapsed with no sign of use during the 2010 surveys. Also, numerous large burrows exist within un-landscaped portions of the transmission line ROW. These burrows were also surveyed for sign of use with negative results. Participation in the HCP and adherence to HCP conservation measures will ensure impacts are avoided and actions are taken to benefit the species.

Western Burrowing Owl

The western burrowing owl is a California state species of special concern. Additionally, it is protected under the Migratory Bird Treaty Act (MBTA) and several CDFG codes, including 3503, 3503.5, and 3513. This species is widespread throughout the western United States but has declined in Contra Costa County and many other areas because of habitat modification, poisoning of its prey, and introduced nest predators. The western burrowing owl is diurnal and usually non-migratory in this portion of its range. This species is known to establish nests within abandoned burrows from ground squirrels and other wildlife. The species can occur in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant. Western burrowing owl conservation is tied to the preservation and management of open agricultural lands, similar to Swainson's hawk habitats.

Two western burrowing owl occurrences are reported in the CNDDB within 1,000 feet of the electrical transmission line corridor (Figure 5). Occurrence #947 is a report from November 2005 of one pair and one adult in open, level grassland with low-lying shrubs, sandy soils, and ruderal vegetation. Occurrence #1210 is a report from June 2006 of two adults in sandy, non-native annual grassland north of a freshwater marsh associated with East Antioch Creek.

No western burrowing owls or burrows were observed by CH2M HILL biological survey staff during field surveys conducted on the project parcel, construction laydown areas, stockpile areas,

transmission line or force main ROW; however, the areas in and around the project parcel and transmission line ROW provide suitable western burrowing owl nesting and foraging habitat. Since no burrowing owls were present passive relocation of nesting or occupied burrows is not expected. However, if occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

California Tiger Salamander (CTS)

The nearest occurrence of CTS is approximately 2.5 miles southwest of the connection of the transmission line corridor to the PG&E Contra Costa Substation. The OGS project will primarily affect agricultural lands that border the project area. While there are two seasonal wetlands adjacent to the stock pile areas and Wetland E is located within the project parcel, these indentified habitats are considered very marginal CTS habitat because of their very short ponding duration. Therefore, because of the significant distance between known CTS occurrences and the project area and the marginal nature of the habitat, this project is not expected to have an effect on CTS dispersal habitat.

Although no impacts to CTS are expected, ESA fencing and “Sensitive Resource” signage will keep construction personnel out of aquatic habitats. The CEC Designated Biologist and Biological Monitors will also take special consideration around project waterways to ensure impacts are avoided and actions are taken to benefit the species.

California Red-legged Frog (CRLF)

The CRLF (*Rana aurora draytonii*) is federally listed as threatened and state listed as a species of special concern. The CRLF is the largest native frog in the western United States, ranging from 4 to 13 centimeters long. The abdomen and hind legs of adults are largely red. The back has small black flecks and larger irregular dark blotches; lateral folds are prominent on the back. The CRLF occupies a fairly distinct habitat, combining both specific aquatic and riparian components. Adults need dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2-1/3-foot deep), still, or slow-moving water. CRLF breed from November through March with earlier breeding records occurring in southern localities. In areas where frogs have been found in the vicinity and suitable habitat is present, the USFWS advises that suitable habitat accessible to frog populations occurring within five miles should be presumed to be occupied by the species (USFWS, 2010).

The closest occurrence of CRLF is 3.5 miles southwest of the project parcel and transmission line corridor. The only suitable habitat for CRLF is along the transmission line ROW where it intersects East Antioch Creek (see Figure 3j, Land Cover Habitat Survey). This feature flows from a culvert that begins at the transmission line ROW and becomes an open meandering stream with emergent vegetation as it flows north to Lake Alhambra and eventually to the San Joaquin River. Access to this area of the transmission line ROW will be via an existing paved access road that turns into an earthen road. In addition, ESA, silt fencing and sensitive resource signage will be installed at the top of slope at the East Antioch Creek crossing which will help insure that the project does not have an effect on CRLF.

Giant Garter Snake (GGS)

The giant garter snake (*Thamnophis gigas*), which is federally listed threatened and state listed threatened, inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. Because of direct loss of natural habitat, the giant garter snake now relies heavily on marginal habitat such as rice fields, agricultural canals, and managed marsh areas. This species is typically absent from larger rivers because of lack of suitable habitat and emergent vegetative

cover, and it is absent from wetlands with sand, gravel, or rock substrates. Giant garter snakes feed primarily on small fishes, tadpoles, and frogs. Habitat requirements consist of adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter. They breed from March and April through late July and early September (USFWS, 2004).

The closest occurrence of GGS is on Sherman Island near the northern bank of the San Joaquin River, 1.3 miles north of the project parcel and transmission line corridor. The only suitable habitat for GGS is along the transmission line ROW where it intersects East Antioch Creek (see Figure 3j, Land Cover Habitat Survey). East Antioch Creek flows from a culvert that begins at the transmission line ROW and becomes an open meandering stream with emergent vegetation as it flows north to Lake Alhambra and eventually to the San Joaquin River. In addition, ESA, silt fencing and sensitive resource signage will be installed at the top of slope at the East Antioch Creek crossing which will help insure that the project does not have an effect on GGS.

Swainson's hawk

Swainson's hawks generally inhabit a variety of open habitats. In California's Central Valley, suitable primary habitat consists of suitable nest trees and proximity to high-quality foraging habitat. This species nests within riparian forest or in remnant riparian trees, and it forages in agricultural lands such as fallow fields and alfalfa fields (Estep, 1989; Babcock, 1995). Swainson's hawks also use isolated trees near forage habitat. Agricultural patterns and cover types influence suitability of foraging and home-range habitat. Habitat with the highest foraging value includes ruderal fields, fallow fields, grain crops, and alfalfa fields.

The project parcel is near the edge of Swainson's hawk summer range (Zeiner et al., 1998) and is adjacent to areas identified in the ECCC HCP/NCCP as suitable nesting and foraging habitat. As reported in the CNDDB, the nearest Swainson's hawk occurrence (occurrence #1312) was observed 3.7 miles southeast of the project parcel in a Eucalyptus tree surrounded by agricultural fields.

The project site contains marginal Swainson's hawk nesting and foraging habitat; however, Swainson's hawk were observed foraging above grasslands near the soil stockpile areas north of the project parcel during field surveys, and large trees are present within the project parcel that could provide suitable nesting habitat. Potential ruderal grassland foraging habitat is also located in the laydown area and at the western end of the transmission line.

Golden Eagle

No known nesting habitat for bald eagles is present within 10 miles of the project parcel; however, these species may forage in the San Joaquin River and may occasionally forage over the project parcel and in nearby open areas. The Eucalyptus trees at the site may provide suitable winter roosting habitat. Bald eagles have been reported in the project region through the Audubon Society Christmas Bird Counts (National Audubon Society, Inc., 2009).

Habitat for golden eagles is typically rolling foothills, mountain areas, and desert. Golden eagles need open terrain for hunting and prefer grasslands, deserts, savannah, and early successional stages of forest and shrub habitats. This species prefers to nest in rugged, open habitats with canyons and escarpments and with overhanging ledges and cliffs and large trees used as cover. Golden eagles are reported in the region by the Christmas Bird Counts and the CNDDB. The nearest golden eagle occurrence reported in the CNDDB (occurrence #145) is a nest observed in blue oak savannah and grasslands approximately 9.8 miles southwest of the project parcel in the Diablo Range.

2. Reference and attach the Planning Survey Species Habitat Maps as required in Table 2a.

Results of focused species surveys encompassed the following species and were mapped on the Land Cover Habitat Survey Maps where observed;

San Joaquin Kit Fox, no San Joaquin Kit Fox were observed during the surveys. Potential habitat observed included a collapsed large mammal den on the OGS project site (Figure 3a), and enlarged ground squirrel burrows along the transmission line route (Figure 3g).

Western Burrowing Owl, No western burrowing owls or burrows were observed by CH2M HILL biological survey staff during field surveys. Potential habitat observed consisted of enlarged ground squirrel burrows along the transmission line route (Figure 3g).

California Tiger salamander, marginal CTS or CTS habitat were observed during the surveys. All wetlands will be protected by silt fencing and ESA fencing as well as "Sensitive Resource" signage. The potential marginal habitat areas are noted on Figure 3a.

California Red-legged Frog, no CRLF were observed during the surveys. Potential CRLF habitat area is noted on Figure 3j (East Antioch Creek).

Giant Garter Snake, no GGS were observed by CH2M HILL biological staff during field surveys. Potential GGS habitat area is noted on Figure 3j (East Antioch Creek).

Swainson's Hawk, no Swainson's hawk nest sites were observed by CH2M HILL biological staff during field surveys, therefore there are no mapped occurrences.

Golden Eagle, no Golden Eagle nest sites were observed by CH2M HILL biological staff during field surveys, therefore there are no mapped occurrences.

Covered and No-Take Plants

On suitable land cover types, surveys for covered and no-take plants must be conducted using approved CDFG/USFWS methods during the appropriate season to identify any covered or no-take plant species that may occur on the site (see page 6-9 of the Final HCP/NCCP). Based on the land cover types found in the project area and identified in Table 1, check the applicable boxes in Table 2b and provide a summary of survey results as required below. If any no-take plants are found in the project area, the provisions of Conservation Measure 1.11 must be followed (see *Avoidance and Minimization Measures* below).

Table 2b
Covered and No-Take Plant Species, Typical Habitat Conditions, and Typical Blooming Periods

Land Cover Type in the project area?	Plant Species	Covered (C) or No-Take (N)?	Typical Habitat or Physical Conditions, if Known	Typical Blooming Period[a]
☐ Oak savanna	Diablo Helianthella (*Helianthella castanea*)	C	Elevation above 650 feet[b]	Mar–Jun
	Mount Diablo fairy-lantern (*Calochortus pulchellus*)	C	Elevation between 650 and 2,600 feet[b]	Apr–Jun
☐ Oak woodland	Brewer's dwarf flax (*Hesperolinon breweri*)	C		May–Jul
	Diablo Helianthella (*Helianthella castanea*)	C	Elevation above 650 feet[b]	Mar–Jun

Table 2b
Covered and No-Take Plant Species, Typical Habitat Conditions, and Typical Blooming Periods

Land Cover Type in the project area?	Plant Species	Covered (C) or No-Take (N)?	Typical Habitat or Physical Conditions, if Known	Typical Blooming Period[a]
	Mount Diablo fairy-lantern (*Calochortus pulchellus*)	C	Elevation between 650 and 2,600 feet[b]	Apr–Jun
	Showy madia (*Madia radiata*)	C		Mar–May
☐ Chaparral and scrub	Brewer's dwarf flax (*Hesperolinon breweri*)	C		May–Jul
	Diablo Helianthella (*Helianthella castanea*)	C	Elevation above 650 feet[b]	Mar–Jun
	Mount Diablo buckwheat (*Eriogonum truncatum*)	N		Apr–Sep; uncommonly Nov–Dec.
	Mount Diablo fairy-lantern (*Calochortus pulchellus*)	C	Elevation between 650 and 2,600 feet[b]	Apr–Jun
	Mount Diablo Manzanita (*Arctostaphylos auriculata*)	C	Elevation between 700 and 1,860 feet; restricted to the eastern and northern flanks of Mt. Diablo[b]	Jan–Mar
☐ Alkali grassland	Brittlescale (Atriplex depressa)	C	Restricted to soils of the Pescadero or Solano soil series; generally found in southeastern region of plan area[b]	May–Oct
	Caper-fruited tropidocarpum (*Tropidocarpum capparideum)*	N		Mar-Apr
	Contra Costa goldfields (*Lasthenia conjugens*)	N	Generally found in vernal pools	Mar–Jun
	Recurved larkspur (Delphinium recurvatum)	C		Mar–Jun
	San Joaquin spearscale (*Atriplex joaquiniana*)	C		Apr-Oct
☐ Alkali wetland	Alkali milkvetch (Astragalus tener ssp. tener)	N		Mar–Jun
	Brittlescale (Atriplex depressa)	C	Restricted to soils of the Pescadero or Solano soil series; generally found in southeastern region of plan area[b]	May–Oct

Table 2b
Covered and No-Take Plant Species, Typical Habitat Conditions, and Typical Blooming Periods

Land Cover Type in the project area?	Plant Species	Covered (C) or No-Take (N)?	Typical Habitat or Physical Conditions, if Known	Typical Blooming Period[a]
	San Joaquin spearscale (*Atriplex joaquiniana*)	C		Apr–Oct
☐ Annual grassland	Alkali milkvetch (*Astragalus tener* ssp. *tener*)	N		Mar–Jun
	Big tarplant (Blepharizonia plumosa)	C	Elevation below 1500 feet[b]	Jul–Oct
	Brewer's dwarf flax (*Hesperolinon breweri*)	C	Restricted to grassland areas within a 500+ buffer from oak woodland and chaparral/scrub[b]	May–Jul
	Contra Costa goldfields (*Lasthenia conjugens*)	N	Generally found in vernal pools	Mar–Jun
	Diamond-petaled poppy (Eschscholzia rhombipetala)	N		Mar–Apr
	Large-flowered fiddleneck (*Amsinckia grandiflora*)	N		Apr–May
	Mount Diablo buckwheat (*Eriogonum truncatum*)	N		Apr–Sep; uncommonly Nov–Dec
	Mount Diablo fairy-lantern (*Calochortus pulchellus*)	C	Elevation between 650 and 2,600[b]	Apr–Jun
	Round-leaved filaree (*California macrophylla*)[1]	C		Mar–May
	Showy madia (*Madia radiata*)	C		Mar–May
☐ Seasonal wetland	Adobe navarretia (Navarretia nigelliformis ssp. nigelliformis)	C	Generally found in vernal pools[b]	Apr–Jun
	Alkali milkvetch (*Astragalus tener* sp. *tener*)	N		Mar–Jun
	Contra Costa goldfields (*Lasthenia conjugens*)	N	Generally found in vernal pools	Mar–Jun

[a] From California Native Plant Society. 2007. *Inventory of Rare and Endangered Plants* (online edition, v7-07d). Sacramento, CA. Species may be identifiable outside of the typical blooming period; a professional botanist shall determine if a covered or no take plant occurs on the project site.
[b] See Species Profiles in Appendix D of the Final HCP/NCCP.

Results of Covered and No-Take Plant Species Planning Surveys Required in Table 2b

Describe the results of the planning survey conducted as required in Table 2b. Describe the methods used to survey the site for all covered and no-take plants, including the dates and times of all surveys conducted (see Tables 3-8 and 6-5 of the HCP/NCCP for covered and no-take plants). In order to complete all the necessary covered and no-take plant surveys, both spring and fall surveys are required, check species survey requirements below.

If any covered or no-take plants were found, include the following information in the results summary:

- Description and number of occurrences and their rough population size.
- Description of the "health" of each occurrence, as defined on pages 5-49 and 5-50 of the HCP/NCCP.
- A map of all the occurrences.
- Justification of surveying time window, if outside of the plant's blooming period.
- The CNDDB form(s) submitted to CDFG (if this is a new occurrence).
- A description of the anticipated impacts that the covered activity will have on the occurrence and/or how the project will avoid impacts to all covered and no-take plant species. All projects must demonstrate avoidance of all six no-take plants (see table 6-5 of the HCP/NCCP).

Rare Plant Surveys

Rare plant surveys of the project parcel, laydown and stockpile areas were conducted by botanist Virginia Dains and CH2M HILL biologist Michael Clary on March 25, 2009. Rare plant surveys for the proposed transmission line alignment were conducted by CH2M HILL biologist Richard Crowe and Russell Huddleston on April 22, 2010. Additional surveys of the two ruderal soil stockpile areas were completed by Mr. Huddleston on October 22, 2010. The purpose of the field surveys was to look for and assess habitat suitability for special-status plant species as well as characterize habitats and land cover types. All native and naturalized plant species were identified to the taxonomic level to determine their conservation status.

No special-status plants were observed during any of the botanical surveys. Given the existing high levels of disturbance and the lack of natural habitats associated with the project areas, including the transmission line right-of-way, the potential for special-status plant species to occur is considered extremely low. The project site, laydown and stockpile areas include buildings and roads with horticultural plantings and other disturbed industrial areas characterized by ruderal vegetation. A constructed mitigation wetland is present in the southwest portion of the project parcel. Detailed results of the rare plant survey reports are provided in Attachment 6.

III. Species-Specific Monitoring and Avoidance Requirements

This section discusses subsequent actions that are necessary to ensure project compliance with Plan requirements. Survey requirements and Best Management Practices pertaining to selected covered wildlife species are detailed in Section 6.4.3, *Species-Level Measures*, beginning on page 6-36 of the Final HCP/NCCP.

Preconstruction Surveys for Selected Covered Wildlife

If habitat for selected covered wildlife species identified in Table 2a was found to be present in the project area. In Table 3, identify the species for which preconstruction surveys or notifications are required based on the results of the planning surveys. Identify whether a condition of approval has been inserted into the development contract to address this requirement.

Table 3
Applicable Preconstruction Survey and Notification Requirements based on Land Cover Types and Habitat Elements Identified in Table 2a

Species	Preconstruction Survey and Notification Requirements
☐ None	
☒ San Joaquin kit fox (p. 6-38)	Map all dens (>5 in. diameter) and determine status. Determine if breeding or denning foxes are in the project area. Provide written preconstruction survey results to FWS within 5 working days after surveying.
☒ Western burrowing owl (p. 6-40)	Map all burrows and determine status. Document use of habitat (e.g. breeding, foraging) in/near disturbance area (within 500 ft.)
☒ Giant garter snake (p. 6-44)	Delineate aquatic habitat up to 200 ft. from water's edge. Document any sightings of garter snake.
☐ California tiger salamander (p. 6-46) (notification only)	Provide written notification to USFWS and CDFG regarding timing of construction and likelihood of occurrence in the project area.
☐ California red-legged frog (p. 6-47) (notification only)	Provide written notification to USFWS and CDFG regarding timing of construction and likelihood of occurrence in the project area.
☐ Covered shrimp species (p. 6-47)	Document and evaluate use of all habitat features (e.g., vernal pools, rock outcrops). Document occurrences of covered shrimp.
☐ Townsend's big-eared bat (p. 6-37)	Determine if site is occupied or shows signs of recent occupation (guano).
☒ Swainson's hawk (p. 6-42)	Determine whether nests are occupied.
☒ Golden eagle (p. 6-39)	Determine whether nests are occupied.
Note: Page numbers refer to the HCP/NCCP.	

Preconstruction Surveys as Required for Selected Covered Wildlife in Table 3

Describe the preconstruction survey's or notification conditions applicable to any species checked in Table 3. All preconstruction surveys shall be conducted in accordance with the requirements set forth in Section 6.4.3, *Species-Level Measures*, and Table 6-1 of the HCP/NCCP.

San Joaquin Kit Fox

Prior to any ground disturbance related to covered activities, a USFWS/CDFG–approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (U.S. Fish and Wildlife Service 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities.

If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the measures described in the following section (Construction Monitoring and Avoidance) will be implemented.

Western Burrowing Owl

Prior to any ground disturbance related to covered activities, a USFWS/CDFG approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and/or habitat features and evaluate use by owls in accordance with CDFG survey guidelines (California Department of Fish and Game 1993).

On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different land ownership will not be surveyed. Surveys should take place near sunrise or sunset in accordance with CDFG guidelines. All burrows or burrowing owls will be identified and mapped. Surveys will take place no more than 30 days prior to construction. During the breeding season (February 1 through August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the non-breeding season (September 1 through January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or non-breeding) during which the survey is conducted.

Giant Garter Snake

Prior to any ground disturbance related to covered activities, a USFWS/CDFG–approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as having suitable garter snake habitat and 200 feet of adjacent uplands, measured from the outer edge of each bank. The surveys will delineate suitable habitat and document any sightings of giant garter snake.

California Red-legged Frog (CRLF)

No preconstruction surveys are required.

Swainson's hawk

Prior to any ground disturbance related to covered activities that occurs during the nesting season (March 15 through September 15), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests within 1,000 feet are off the project site, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the project site. If nests are occupied, the minimization measures and construction monitoring described in the following section are required (see Construction Monitoring and Avoidance).

Golden Eagle

Prior to implementation of covered activities, a qualified biologist will conduct a preconstruction survey to establish whether nests of golden eagles are occupied (see Section 6.3.1, *Planning Surveys*). If nests are occupied, the minimization measures and construction monitoring described in the following section are required (see Construction Monitoring and Avoidance).

Construction Monitoring & Avoidance and Minimization Measures for Selected Covered Species

If preconstruction surveys for key covered wildlife species establish the presence of any such species, construction monitoring will be necessary. In Table 4, check the boxes for the species that will be assessed during the preconstruction surveys (see Table 3). A summary of the construction monitoring requirements for each species is provided in Table 4 and these measures must be implemented in the event that preconstruction surveys described in Table 3 detect the covered species. A summary of avoidance measures is also provided in Table 4 and these measures must be implemented if construction monitoring detects the species or its sign. These construction monitoring and avoidance requirements are described in detail in Section 6.4.3, Species-Level Measures, of the Final HCP/NCCP.

Construction Monitoring Plan Requirements in Section 6.3.3, Construction Monitoring, of the Final HCP/NCCP:

☒ Before implementing a covered activity, the applicant will develop and submit a construction-monitoring plan to the Implementing Entity[4] for approval.

As outlined in the CEC Conditions of Certification (CEC, 2011), CCGS LLC will be required to prepare a Biological Resources Implementation and Monitoring Plan (BRMIMP) for submittal to the CEC CPM, the CDFG, USFWS, and the ECCCHC for review and comment prior to the start of construction. The BRMIMP will include a description of avoidance and mitigation measures, identify monitoring activities and the frequency of monitoring activities, and identify the onsite biological resources authority (i.e., the approved Designated Biologist). CCGS LLC will also be required to submit the results of the pre-construction surveys to the ECCCHC to comply with the CEC Conditions of Certification (CEC, 2011). The submittals will summarize the survey results for nesting birds, bats, Swainson's hawk, burrowing owl, American badger, San Joaquin kit fox, Western pond turtle, and GGS, prior to the start of construction. Implementation of the BRMIMP measures will be reported in the Monthly Compliance Reports. A copy of the Monthly Biology Compliance Reports will also be submitted to the ECCCHC. Therefore, CCGS LLC assumes a separate construction monitoring plan will not be required.

[4] The East Contra Costa County Habitat Conservancy and the local land use Jurisdiction must review and approve the plan **prior** to the commencement of all covered activities (i.e. construction).

Table 4
Applicable Construction Monitoring Requirements

Species Assessed by Preconstruction Surveys	Monitoring Action Required if Species Detected
☐ None	N/A
☒ San Joaquin kit fox (p. 6-38)	Establish exclusion zones (>50 ft) for potential dens. Establish exclusion zones (>100 ft) for known dens. Notify USFWS of occupied natal dens.
☒ Western burrowing owl (p. 6-40)	Establish buffer zones (250 ft) around nests. Establish buffer zones (160 ft) around burrows.
☒ Giant garter snake (p. 6-44)	Delineate 200-ft buffer around potential habitat. Provide field report on monitoring efforts. Stop construction activities if snake is encountered; allow snake to passively relocate. Remove temporary fill or debris from construction site. Mandatory training for construction personnel.
☐ Covered shrimp species (p. 6-47)	Establish buffer around outer edge of all hydric vegetation associated with habitat (50 feet of limit of immediate watershed supporting the wetland, whichever is larger). Mandatory training for construction personnel.
☒ Swainson's hawk (p. 6-42)	Establish 1,000-ft buffer around active nest and monitor compliance.
☒ Golden eagle (p. 6-39)	Establish 0.5-mile buffer around active nest and monitor compliance.

Construction Monitoring & Avoidance and Minimization Measures as Required for Selected Covered Wildlife in Table 4

Describe the construction monitoring and avoidance and minimization measures applicable to any species checked in Table 4. A **summary of avoidance measures is provided in Table 4, these measures must be implemented if construction monitoring detects the presence of the species. The construction monitoring & avoidance and minimization measures requirements are described in detail in Section 6.4.3, Species-Level Measures, of the HCP/NCCP.**

Biological Resources Mitigation Implementation and Monitoring Plan

A BRMIMP will be prepared at least 60 days prior to construction that outlines how the project would implement the mitigation and protection measures developed specifically for the project through participation in the HCP/NCCP (CEC, 2011). The mitigation and protection measures will be developed through consultation and discussions with the CEC, ECCCHC, USFWS, and CDFG. All participating entities will be provided draft copies of the BRMIMP for review and comment prior to finalizing the BRMIMP document. Per the CEC Conditions of Certification, it is assumed an acceptability determination would be made by the reviewing agencies within 45 days of receipt.

Implementation of BRMIMP measures will be reported in the Monthly Compliance Reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, and species observed). Within 30 days after completion of project construction, the project owner shall provide to the ECCCHC a written construction completion report identifying which items of the BRMIMP

have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.

Worker Environmental Awareness Program

A site-specific Worker Environmental Awareness Program (WEAP), which is intended to educate construction workers and operators on the sensitive resources in the area and the measures that should be undertaken to avoid or minimize impacts to these resources, will be administered by the designated biologist as part of the mitigation plan (CEC, 2011). The WEAP will include an oral, video/PowerPoint, and/or written materials presentation that discusses the types of construction activities that may impact biological resources and the measures developed to avoid such impacts. The WEAP will also include appropriate contact information and procedures. The program will include information regarding encounters with wildlife and dealing with situations involving biological resources.

Special-Status Species

With regard to special-status species, the following "Construction Monitoring & Avoidance and Minimization Measures" will be implemented:

San Joaquin kit fox:

- If a San Joaquin kit fox den is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFG– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used.
- Unoccupied dens should be destroyed immediately to prevent subsequent use.
- If a natal or pupping den is found, USFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG.
- If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).

If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

Western burrowing owl:

If burrowing owls are found during the breeding season (February 1–August 31), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a nondisturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1–January 31), the project proponent should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone (described below).

If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

Giant Garter Snake:

To the maximum extent practicable, impacts on giant garter snake habitat as a result of covered activities will be avoided. If feasible, in areas near construction activities, a buffer of 200 feet from suitable habitat will be delineated within which vegetation disturbance or use of heavy equipment is prohibited. If impacts on giant garter snake habitat as a result of covered activities are not avoided, the following measures will be implemented. These measures are based on USFWS's *Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat* (U.S. Fish and Wildlife Service 1999).

- Limit construction activity that disturbs habitat to the period between May 1 and September 30. This is the active period for giant garter snake, and direct mortality is minimized because snakes are more likely to independently move away from disturbed area. If activities are necessary in giant garter snake habitat between October 1 and April 30, the USFWS Sacramento Field Office will be contacted to determine if additional measures beyond those described below are necessary to minimize and avoid take.

- In areas where construction is to take place, dewater all irrigation ditches, canals or other aquatic habitat between April 15 and September 30 to remove habitat of garter snakes. Dewatered areas must remain dry, with no puddle water remaining, for at least 15 consecutive days prior to the excavation or filling of that habitat. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary.

If suitable habitat for giant garter snake cannot be avoided between October 1 and April 30 the USFWS Sacramento Field Office will be contacted to determine if additional measures beyond those described below are necessary, and the following actions will be performed. A USFWS-approved biologist will conduct a construction survey no more than 24 hours before construction in suitable habitat and will be on site during construction activities in potential aquatic and upland habitat to ensure that individuals of giant garter snake encountered during construction will be avoided. The biologist will provide USFWS with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The monitor will be available thereafter. If a snake is encountered during construction activities, the monitor will have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from the construction area on their own. Only personnel with a USFWS recovery permit pursuant to Section 10(a)(1)(A) of the ESA will have the authority to capture and/or relocate giant garter snakes that are encountered in the construction area. The project area will be reinspected whenever a lapse in construction activity of 2 weeks or more has occurred.

To ensure that construction equipment and personnel do not affect nearby aquatic habitat for giant garter snake outside construction areas, silt fencing will be erected to clearly define the aquatic habitat to be avoided; restrict working areas, spoils, and equipment storage and other project activities to areas outside of aquatic or wetland habitat; and maintain water quality and limit construction runoff into wetland areas through the use of fiber bales, filter fences, vegetation buffer strips, or other appropriate methods.

Fill or construction debris may be used by giant garter snakes as over-wintering sites. Therefore, upon completion of construction activities, any temporary fill or construction debris must be removed from the site.

Construction personnel will be trained to avoid harming giant garter snakes. A qualified biologist approved by USFWS will inform all construction personnel about the life history of giant garter snakes; the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas such as rice fields to giant garter snakes; and the terms and conditions of the Plan related to avoiding and minimizing impacts on giant garter snake.

Swainson's hawk:

During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be used, the Implementing Entity will coordinate with CDFG/USFWS to determine the appropriate buffer size.

If young fledge prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project applicant can apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFG. While the nest is occupied, activities outside the buffer can take place. All active nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to covered activities will be mitigated by the project proponent according to the requirements below.

Mitigation for Loss of Nest Trees

The loss of non-riparian Swainson's hawk nest trees will be mitigated by the project proponent by:

- If feasible on-site, planting 15 saplings for every tree lost with the objective of having at least 5 mature trees established for every tree lost according to the requirements listed below.

  AND either

  1. Pay the Implementing Entity an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve System for every tree lost according to the requirements listed below, OR
  2. The project proponent will plant, maintain, and monitor 15 saplings for every tree lost at a site to be approved by the Implementing Entity (e.g., within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves), according to the requirements listed below.

The following requirements will be met for all planting options:

- Tree survival shall be monitored at least annually for 5 years, then every other year until year 12. All trees lost during the first 5 years will be replaced. Success will be reached at the end of 12 years if at least 5 trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least three years without irrigation.
- Irrigation and fencing to protect from deer and other herbivores may be needed for the first several years to ensure maximum tree survival.
- Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk. This variety will help to ensure that nest trees will be available in the short term (5-10 years for cottonwoods and willows) and in the long term (e.g., Valley oak, sycamore). This will also minimize the temporal loss of nest trees.
- Riparian woodland restoration conducted as a result of covered activities (i.e., loss of riparian woodland) can be used to offset the nest tree planting requirement above, if the nest trees are riparian species.

- Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site).
- Whenever feasible, plantings on the site should occur closest to suitable foraging habitat outside the UDA.
- Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk in the inventory area and as close as possible to high-quality foraging habitat.

Golden Eagle:

Covered activities will be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity will coordinate with CDFG/USFWS to determine the appropriate buffer size.

Construction monitoring will focus on ensuring that no covered activities occur within the buffer zone established around an active nest. Although no known golden eagle nest sites occur within or near the ULL, covered activities inside and outside of the Preserve System have the potential to disturb golden eagle nest sites. Construction monitoring will ensure that direct effects to golden eagles are minimized.

IV. Landscape and Natural Community-Level Avoidance and Minimization Measures

Describe relevant avoidance and minimization measures required to address the conservation measures listed below. <u>If a conservation measure is not relevant to the project, explain why.</u>

<u>For All Projects</u>

HCP/NCCP Conservation Measure 1.10. Maintain Hydrologic Conditions and Minimize Erosion

Briefly describe how the project complies with this measure. See page 6-21 of the Final HCP/NCCP for details.

Drainage Erosion and Sediment Control/Stormwater Pollution Prevention Plan

The OGS stormwater design will be governed by the stormwater management requirements of the Contra Costa Clean Water Program Stormwater C.3 Guidebook (CCCWP, 2008). The "C.3" stormwater regulations for new development currently apply to any development project which will create one acre or more of impervious area. The C.3 requirements address both flow control and treatment of stormwater. Per page 8 of the C.3 guidebook, using the Option 2 design process detailed in Chapter 4 will allow the OGS project to meet both treatment and flow control requirements.

A draft Construction Drainage, Erosion, and Sediment Control/ Stormwater Pollution Prevention Plan (DESCP/SWPPP) has been developed for the OGS project which incorporates the requirements of the C.3 guidebook. A final DESCP/SWPPP will be prepared prior to the start of construction and will be available for review upon request. The DESCP/SWPPP summarizes the proposed plans for maintaining the hydrologic conditions and minimizing erosion during construction. A copy of the draft DESCP/SWPPP is included as Attachment 7.

The following discussion is a summary of the information provided in the draft DESCP/SWPPP as it applies to Conservation Measure 1.10.

Project Area

The project site is part of the former DuPont industrial facility but DuPont did not have any buildings, process equipment, or other facilities placed at the project site when the industrial facility was in operation. The plant site is currently a vineyard with a row of Eucalyptus trees along the northeastern corner. Runoff at the OGS site currently drains to Wetland E, which is located on the northwest corner of the project site.

CCGS LLC plans to construct the OGS project area in three phases. Phase 1 construction consists of site grubbing and rough grading in order to construct the fire pump foundation east of Wetland E (Figure 6). The laydown area will be grubbed and rough graded to accommodate construction vehicles, equipment and parking. Sediment control BMPs will be implemented at the downgradient perimeter. Phase 2 construction consists of site grubbing and rough grading on the plant site (Figure 7). Stockpiles will be secured and wetlands D and F will be protected with BMPs. A sediment basin will be constructed east of Wetland E and additional BMPs will continue to protect Wetland E. Phase 3 includes the installation of permanent operational BMPs including the bioswales and culverts (Figure 8).

During the project, best mitigation practices will be used to minimize erosion. The following are examples of the sediment controls that will be used onsite during project construction:

- SE-1 Silt Fence
- SE-2 Sediment Basin
- SE 3 Sediment Trap
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-7 Street Sweeping and Vacuuming
- SE-8 Sandbag Barrier
- SE-9 Straw Bale Barrier
- SE-10 Storm Drain Inlet Protection
- SE-14 Biofilter Bags

A combination of silt fence and fiber rolls will be used around Wetland E to prevent the transmittal of soil particles in runoff from flowing into the wetland. Street sweeping and/or vacuuming will be implemented at the access roads entrances and exits. The proposed BMPs for the project area are presented in Figures 6 and 7.

Post-development drainage at the site will be designed to maintain the natural drainage pattern of the site. All stormwater will be contained onsite via a series of bioswales and a detention basin, eventually discharging into Wetland E. The volume provided within these areas is sufficient to store the combined 100-year and 10-year runoff volumes provided without discharging stormwater offsite. Water will either infiltrate directly into the ground, or will be routed into the detention basin which will provide stormwater treatment prior to discharge to the wetland. Given the high permeability of the Delhi Sand soils found in the project area, infiltration has been calculated to be fairly rapid. Four bioswales and a detention basin will be utilized to collect all stormwater runoff from the project site. The locations of bioswales, delineated drainage areas for each bioswale, and the detention basin are shown on Figure 8. Rainfall less than the design event will be contained in the bioswales and will infiltrate through the sandy soils or evaporate. The soils, plantings, and irrigation for the bioswales will be in accordance with Appendix B of the Contra Costa Clean Water Program Stormwater C.3 Guidebook. Bioswales 4 and 5 will provide additional treatment, particularly during construction, to limit sedimentation from construction activities reaching the wetland. Gravel check dams will be installed within the bioswales to limit erosion and transport of soil mix within the bioswales during higher flow rates. In order to maintain hydration of the wetland area, the detention pond has been designed with low-flow orifices which will release water into the pond within a 24-hour time period when water would be stored in the pond.

Runoff from the power block area will be routed through an oil/water separator before being discharged to the sanitary sewer system and will not be discharged onsite. Appendix E of the draft DESCP/SWPPP contains the Preliminary Stormwater Management Design for the project, which includes stormwater calculations and the pre- and post-development drainage plans.

Construction Laydown Area

Much of the construction laydown area is covered by bare soil with little vegetation; however, the northeastern portion is covered by existing asphalt. Stormwater flows across the asphalt, downward toward the north end of the pavement area and drains into an old asphalt swale that was part of the original Dupont stormwater system. Stormwater collects in the swale and basically pools, as the old stormwater system is maintained. The bare soil portion of the site is roughly divided in half by existing Eucalyptus trees. The topography is varied, but is relatively flat. Currently stormwater infiltrates into the bare ground.

The construction laydown area will be graded with the exception of the existing paved area. The area will be graded such that runoff from the non-asphalt area is collected in a bioswale. Excess water from the construction laydown bioswale will not be pumped offsite as previously indicated in Section 5.15.1.6 of the AFC, but instead will be allowed to pond in the bioswale and percolate.

The proposed BMPs for the construction laydown and parking area are presented in Figures 6 and 7.

Soil Stockpile Area

During construction, a combination of silt fence and fiber rolls will be used on the upslope sides of wetlands D and F to prevent soil particles from flowing into them. Fiber rolls will also be placed around the perimeter of stockpile 1 (located on a concrete parking area) to prevent sediment transport from the stockpile area. Additional BMPs such as Gravel Bag Berms, Sand Bag Barriers or Straw Bale Barriers may also be used in these areas for reinforcement. Street sweeping and/or vacuuming will be implemented at the access roads entrances and exits. The proposed BMPs for the soil stockpile areas are presented in Figure 9.

The temporary soil stockpile 1 area will not be impacted (graded) during construction activities. Therefore, the pre-construction drainage will be maintained following construction. Stockpiles 2 and 3 will be vegetated following construction and will be maintained over time during build-out of the DuPont Oakley Specific Plan. Post-construction drainage will be in the form of infiltration into the stockpiles, using applicable BMPs for erosion and sediment control.

Transmission Line Construction Areas

Following installment of the new pole towers and removal of the old towers, the land surface will be regraded and revegetated to pre-construction conditions. A summary of the re-vegetation plan and proposed BMPs for each tower site are included in Attachment 3.

Transmission Line Pull and Tensioning Areas

Following installment of the new pole towers and removal of the old towers, the land surface will be regraded and revegetated to pre-construction conditions. BMPs for the transmission line pull and tensioning areas will be similar to the transmission line construction areas above.

Sanitary Sewer Force Main Areas

Drainage patterns would not change due to installation of the force main; and BMPs would protect against extra runoff and sediment due to construction activities. Following construction, both roads and their respective ROWs would be returned to pre-construction conditions.

HCP/NCCP Conservation Measure 1.11. Avoid Direct Impacts on Extremely Rare Plants, Fully Protected Wildlife Species, or Covered Migratory Birds

Briefly describe how the project complies with this measure. See page 6-23 of the Final HCP/NCCP for details.

Extremely Rare Plants

Extremely rare plants have not been identified on the project parcel or along the transmission line ROW.

Fully Protected Wildlife Species

The white-tailed kite and golden eagle are listed in the HCP as “no take species,” and no direct take of individuals is allowed (HCP Table 6-5). MBTA species could breed in a variety of habitats, including grasslands, cultivated fields, oak woodlands, and suburban areas where prey is abundant. Preconstruction surveys for white-tailed kite and golden eagle will be performed as part of preconstruction surveys.

Migratory Birds

Breeding habitat for birds of prey protected by the CDFG Commission Code, Section 1600, and the federal MBTA occurs in the project area. These species include the white-tailed kite *(Elanus lecurus*) and red-tailed hawk (*Buteo jamaicensis*), which were observed during field visits; other migratory birds (passerines and raptors), including Swainson's hawk and golden eagle, receive additional protection under the MBTA and Migratory Bird Treaty Reform Act (USFWS, 2005). All birds covered by the HCP are also considered migratory birds and are subject to the prohibitions of the MBTA (see HCP Conservation Measure 1.11:pg 6-23). Red-tailed hawk is not covered by the HCP but is covered by the MBTA. Actions conducted under the HCP must comply with the provisions of the MBTA and avoid killing or possessing covered migratory birds, their young, nests, feathers, or eggs (see HCP Conservation Measure 1.11: pg 6-23). To fulfill the requirements of the MBTA, covered activities must not result in take as defined by the MBTA of covered bird species.

Preconstruction surveys for MBTA species will be performed as part of preconstruction surveys for Swainson's hawk and golden eagle. If active nests are detected during the survey, a no-disturbance buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with the CPM (in coordination with CDFG, USFWS, and Conservancy) and monitoring plan shall be developed as outlined in CEC Condition of Certification BIO-9 (CEC, 2011). Biological construction monitoring will ensure that direct effects to MBTA species are minimized.

For Projects on or adjacent to Streams or Wetlands

HCP/NCCP Conservation Measure 1.7. Establish Stream Setbacks

Briefly describe how the project complies with this measure. See page 6-15 and Table 6-2 of the Final HCP/NCCP for details. For questions on the stream setback requirements, please contact the Conservancy.

Stream Setback—East Antioch Creek

The project would intersect GGS upland habitat at the intersection of the transmission line ROW and East Antioch Creek (see Figure 3j, Land Cover Habitat Survey), with the replacement of an existing steel-lattice tower with a tubular steel pole approximately 120 feet upslope from the creek bank. East Antioch Creek flows into Lake Alhambra and then into the San Joaquin River. Access to this area will be by an existing paved and earthen walking trail, which crosses East Antioch Creek via a culvert. The area will be protected with ESA signage and sediment control BMPs to ensure no disturbance occurs in this area during construction activities.

HCP/NCCP Conservation Measure 2.12. Wetland, Pond, and Stream Avoidance and Minimization

Briefly describe how the project complies with this measure. See page 6-33 of the Final HCP/NCCP for details.

Wetland E

A wetland preserve, called Wetland E, is located at the western end of the project parcel. This wetland is under conservation easement. The project would avoid this wetland, and the project has been designed so that it will not have any adverse effect on the functions and values of this wetland. A combination of silt fence and fiber rolls will be used around Wetland E to prevent the transmittal of soil particles from flowing into the wetland. In addition, the project will implement a wetland management plan that includes removal of existing refuse from the 0.6-acre wetland and surrounding 1.0-acre conservation area, removal of non-native species and planting of native species, and enhancements to drainage and stormwater control (Attachment 2).

Stream Setback—East Antioch Creek

See the response under Conservation Measure 1.7, above.

The project would not encounter any other streams, wetlands, or ponds.

For Projects adjacent to Protected Natural Lands (existing and projected)

Covered activities adjacent to permanently protected natural lands will require a variety of special considerations to address issues associated with characteristics of the urban-wildland interface. These considerations are intended to minimize the impacts of development on the integrity of habitat preserved and protected under the terms of the Plan. Permanently protected natural lands are defined as any of the following (see the latest Preserve System map on the Conservancy web site, www.cocohcp.org).

- Publicly owned open space with substantial natural land cover types including but not limited to state and regional parks and preserves and public watershed lands (local and urban neighborhood parks are excluded).
- Deed-restricted private conservation easements.
- HCP/NCCP Preserve System lands.
- Potential HCP/NCCP Preserve System lands (see Figure 5-3 in the HCP/NCCP).

HCP/NCCP Conservation Measure 1.6. Minimize Development Footprint Adjacent to Open Space

Briefly describe how the project complies with this measure. See page 6-14 of the Final HCP/NCCP for details.

Not Applicable. The project parcel, transmission line, and force main sewer line ROW are not adjacent to HCP/NCCP preserves, likely HCP/NCCP acquisition sites, or existing public open space that is or will be linked to HCP/NCCP preserve. Therefore, Conservation Measure 1.6 is not applicable for OGS.

HCP/NCCP Conservation Measure 1.8. Establish Fuel Management Buffer to Protect Preserves and Property

Briefly describe how the project complies with this measure. See page 6-18 of the Final HCP/NCCP for details.

Not Applicable. The project parcel, transmission line, and force main sewer line ROW are not adjacent to HCP/NCCP preserves, likely HCP/NCCP acquisition sites, or existing public open space that is or will be linked to HCP/NCCP preserve. Therefore, a fuel management buffer is not required for OGS.

HCP/NCCP Conservation Measure 1.9. Incorporate Urban-Wildland Interface Design Elements

Briefly describe how the project complies with this measure. See page 6-20 of the Final HCP/NCCP for details.

Not Applicable. The project parcel, transmission line and force main sewer line ROW are not adjacent to HCP/NCCP preserves, likely HCP/NCCP acquisition sites, or existing public open space that is or will be linked to HCP/NCCP preserve. Therefore, incorporation of urban-wildland interface design elements are not required for OGS.

For Rural Infrastructure Projects

Rural infrastructure projects provide infrastructure that supports urban development within the urban development area. Such projects are divided into three categories: transportation projects, flood protection projects, and utility projects. Most rural road projects covered by the Plan will be led by Contra Costa County. All flood protection projects covered by the Plan will be led by the County Flood Control District. Utility projects will likely be led by the private companies that own the utility lines. A complete discussion of rural infrastructure projects is presented in Section 2.3.2 of the Final HCP/NCCP beginning on page 2-18.

HCP/NCCP Conservation Measure 1.12. Implement Best Management Practices for Rural Road Maintenance

Briefly describe how the project complies with this measure. See page 6-25 of the Final HCP/NCCP for details.

The applicant will not be maintaining rural roads as part of the project. Therefore, the Conservation Measure 1.12 is not applicable for OGS.

HCP/NCCP Conservation Measure 1.13. Implement Best Management Practices for Flood Control Facility Maintenance

Briefly describe how the project complies with this measure. See page 6-26 of the Final HCP/NCCP for details.

Not Applicable: The applicant will not be maintaining flood control facilities as part of the project. Therefore, the Conservation Measure 1.13 is not applicable for OGS.

HCP/NCCP Conservation Measure 1.14. Design Requirements for Covered Roads outside the Urban Development Area

Briefly describe how the project complies with this measure. See page 6-27 of the Final HCP/NCCP for details.

Not Applicable: The project site, laydown areas, stockpile areas, force main alignment, and approximately 0.8 miles of transmission line are within the initial urban development area. The remaining transmission line is outside the initial urban development area but does not create or impact rural roads. Therefore, the Conservation Measure 1.12 is not applicable for OGS.

V. Mitigation Measures

Complete and Attach Exhibit 1 (Permanent Impact Fees) and/or Exhibit 2 (Temporary Impact Fees) Fee Calculator(s) for Permanent and Temporary Impacts.

- Briefly describe the amount of fees to be paid and when.

- See Section 9.3.1 of the HCP/NCCP for details. If land is to be dedicated in lieu of fees or if restoration or creation of jurisdictional wetlands or waters is to be performed in lieu of fees, summarize these actions here and attach written evidence that the Conservancy has approved these actions in lieu of fees.

The permanent project mitigation fees total is $178,057.91and the temporary mitigation fees total is $52,383.15 for a total project mitigation fee of $230,441.06.The permanent and temporary fee calculation exhibits are included in Attachment 8. Contra Costa Generating Station, LLC proposes to remit the fees prior to any ground-disturbing activities, which are scheduled for June 2011.

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Participating Special Entity Agreement

PARTICIPATING SPECIAL ENTITY AGREEMENT

Between

THE EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY and the CONTRA COSTA GENERATING STATION, LLC

1.0 PARTIES

This Agreement is made and entered into by the East Contra Costa County Habitat Conservancy ("Conservancy") and Contra Costa Generating Station, LLC ("Participating Special Entity" or "PSE") as of the Effective Date.

2.0 RECITALS

The Parties have entered into this Agreement in consideration of the following facts:

2.1 The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan ("HCP/NCCP," or "Plan") is intended to provide a comprehensive framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for certain projects that would cause impacts on endangered and threatened species. The primary policy priority of the Plan is to provide comprehensive species, wetlands, and ecosystem conservation and contribute to recovery of endangered and threatened species within East Contra Costa County while balancing open space, habitat, agriculture, and urban development. To that end, the Plan describes how to avoid, minimize, and mitigate, to the maximum extent practicable, impacts on Covered Species and their habitats while allowing for certain development and other activities in selected regions of the County and the Cities of Pittsburg, Clayton, Oakley, and Brentwood.

2.2 The Conservancy is a joint powers authority formed by its members, the County of Contra Costa ("County"), the City of Pittsburg ("Pittsburg"), the City of Clayton ("Clayton"), the City of Oakley ("Oakley") and the City of Brentwood ("Brentwood"), to implement the HCP/NCCP.

2.3 The HCP/NCCP covers approximately one-third of the County, or 174,082 acres, all in East Contra Costa County, in which impacts from certain development and other activities are evaluated, and in which conservation will occur.

2.4 The area covered by the HCP/NCCP has been determined to provide, or potentially provide, habitat for twenty-eight (28) species that are listed as endangered or threatened, that could in the future be listed as endangered

or threatened, or that have some other special status under federal or state laws.

2.5 The Conservancy has received authorization from the United States Fish and Wildlife Service ("USFWS") under incidental take permit TE 160958-0, and the California Department of Fish and Game ("CDFG"), under incidental take permit 2835-2007-01-03, for the Take of the twenty-eight (28) special-status species and certain other species, as take is defined respectively under federal and state law, while carrying out certain development and other activities.

2.6 The Conservancy may enter into agreements with participating special entities that allow certain activities of theirs to be covered by the Federal Permit and the State Permit, subject to the conditions in the Implementing Agreement ("IA"), the HCP/NCCP and the Permits.

2.7 PSE proposes to implement the Oakley Generating Station Project ("OGS Project") and seeks extension of the Conservancy's permit coverage for the OGS Project, which consists of ground-disturbing activities associated with the development, construction and operation of the Oakley Generating Station and associated transmission line facilities, as further described in Exhibit 1. The OGS Project will be purchased and operated by Pacific Gas & Electric Company ("PG&E"), and this Agreement anticipates that PSE will assign its rights under this Agreement to PG&E.

2.8 The Conservancy has concluded, based on the terms of this Agreement and the application submitted by PSE (the "Application"), that PSE has provided adequate assurances that it will comply with all applicable terms and conditions of the IA, the HCP/NCCP, and the Permits. The Application is attached hereto as Exhibit 1 and is hereby incorporated into this Agreement by reference.

3.0 DEFINITIONS

The following terms as used in this Agreement will have the meanings set forth below. Terms specifically defined in FESA, CESA or NCCPA or the regulations adopted by USFWS and DFG under those statutes shall have the same meaning when used in this Agreement. Definitions used in this Agreement may elaborate on, but are not intended to conflict with, such statutory or regulatory definitions.

3.1 **"Application"** means the application submitted by the PSE in accordance with Chapter 8.4 of the HCP/NCCP, and which is attached hereto as Exhibit 1. The Application contains a cover sheet, the results of required planning surveys and the avoidance, minimization and mitigation measures that will be a condition of the PSE using Conservancy's Permits.

3.2 **"Authorized Take"** means the extent of incidental Take of Covered Species authorized by the USFWS in the Federal Permit issued to the Conservancy pursuant to Section 10(a)(1)(B) of FESA, and the extent of Take of Covered Species authorized by CDFG in the State Permit issued

to the Conservancy pursuant to California Fish and Game Code section 2835.

3.3 **"CDFG"** means the California Department of Fish and Game, a department of the California Resources Agency.

3.4 **"CESA"** means the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.

3.5 **"Changed Circumstances"** means changes in circumstances affecting a Covered Species or the geographic area covered by the HCP/NCCP that can reasonably be anticipated by the Parties and that can reasonably be planned for in the HCP/NCCP. Changed Circumstances and planned responses to Changed Circumstances are more particularly defined in Section 12.2 of the IA and Chapter 10.2.1 of the HCP/NCCP. Changed Circumstances do not include Unforeseen Circumstances.

3.6 **"Covered Activities"** means those land uses and conservation and other activities described in Chapter 2.3 of the HCP/NCCP to be carried out by the Conservancy or its agents that may result in Authorized Take of Covered Species during the term of the HCP/NCCP, and that are otherwise lawful.

3.7 **"Covered Species"** means the species, listed and non-listed, whose conservation and management are provided for by the HCP/NCCP and for which limited Take is authorized by the Wildlife Agencies pursuant to the Permits. The Take of Fully Protected Species is not allowed. The Take of extremely rare plants that are Covered Species is allowed only as described in Section 6.3 and the IA.

3.8 **"Effective Date"** means the date when this Agreement is fully executed.

3.9 **"Federal Listed Species"** means the Covered Species which are listed as threatened or endangered species under FESA as of the Effective Date, and the Covered Species which are listed as threatened or endangered pursuant to FESA during the term of the HCP/NCCP as of the date of such listing.

3.10 **"Federal Permit"** means the federal incidental Take permit issued by USFWS to the Conservancy and other local agencies pursuant to Section 10(a)(1)(B) of FESA (permit number TE 160958-0), as it may be amended from time to time.

3.11 **"FESA"** means the Federal Endangered Species Act of 1973, as amended (16 U.S.C § 1531 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.

3.12 **"Fully Protected Species"** means any species identified in California Fish and Game Code sections 3511, 4700, 4800, 5050 or 5515 that occur within the Plan Area.

3.13 **"HCP/NCCP" or "Plan"** means the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan.

3.14 **"Implementing Agreement" or "IA"** means the "Implementing Agreement for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan," dated January 22, 2007.

3.15 **"Jurisdictional Wetlands and Waters"** means State and federally regulated wetlands and other water bodies that cannot be filled or altered without permits from either the U.S. Army Corps of Engineers under section 404 of the Clean Water Act or, from the State Water Resources Control Boards under either section 401 of the Clean Water Act or the Porter-Cologne Water Quality Act, or CDFG under section 1602 of the Fish and Game Code, as further explained in Chapter 1.3.5 of the HCP/NCCP.

3.16 **"Listed Species"** means a species (including a subspecies, or a distinct population segment of a vertebrate species) that is listed as endangered or threatened under FESA or CESA.

3.17 **"NCCPA"** means the Natural Community Conservation Planning Act (Fish & G. Code, § 2800 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.

3.18 **"Non-listed Species"** means a species (including a subspecies, or a distinct population segment of a vertebrate species) that is not listed as endangered or threatened under FESA or CESA.

3.19 **"OGS Project"** means the Oakley Generating Station Project, as described in Section 2.7.

3.20 **"Party"** or **"Parties"** means any or all of the signatories to this Agreement.

3.21 **"Permit Area"** means the area within the Plan Area where the Conservancy has received authorization from the Wildlife Agencies for the Authorized Take of Covered Species while carrying out Covered Activities.

3.22 **"Permits"** means the Federal Permit and the State Permit.

3.23 **"Plan Area"** means the geographic area analyzed in the HCP/NCCP, located in the eastern portion of Contra Costa County, as depicted in Figure 1-1 of the HCP/NCCP. The Plan Area is further described in detail in Chapter 1.2.1 of the HCP/NCCP. The Plan Area is also referred to as the "Inventory Area" in the HCP/NCCP.

3.24 **"Preserve System"** means the land acquired and dedicated in perpetuity through either a fee interest or conservation easement intended to meet the preservation, conservation, enhancement and restoration objectives of the HCP/NCCP.

3.25 **"State Permit"** means the state Take permit issued to the Conservancy and other local agencies pursuant to Section 2835 of the California Fish and Game Code (permit number 2835-2007-01-03), as it may be amended from time to time.

3.26 **"Take"** has the same meaning provided by FESA and its implementing regulations with regard to activities subject to FESA, and also has the same meaning provided in the California Fish and Game Code with regard to activities subject to CESA and NCCPA.

3.27 **"Unforeseen Circumstances"** under the Federal Permit means changes in circumstances affecting a Covered Species or geographic area covered by the HCP/NCCP that could not reasonably have been anticipated by the Plan developers and USFWS at the time of the Plan's negotiation and development, and that result in a substantial and adverse change in the status of a Covered Species. **"Unforeseen Circumstances"** under the State Permit means changes affecting one or more species, habitat, natural community, or the geographic area covered by the Plan that could not reasonably have been anticipated at the time of Plan development, and that result in a substantial adverse change in the status of one or more Covered Species.

3.28 **"USFWS"** means the United States Fish and Wildlife Service, an agency of the United States Department of Interior.

3.29 **"Wildlife Agencies"** means USFWS and CDFG.

4.0 PURPOSES

This Agreement defines the Parties' roles and responsibilities and provides a common understanding of actions that will be undertaken to avoid, minimize and mitigate the effects on the Covered Species caused by the OGS Project, and to provide for the conservation of the Covered Species within the Plan Area. The purposes of this Agreement are to ensure implementation of each of the terms and conditions of this Agreement, and the relevant terms of the IA, the HCP/NCCP, and the Permits, and to describe remedies and recourse should either Party fail to perform its obligations as set forth in this Agreement.

5.0 AVOIDANCE, MINIMIZATION AND MITIGATION OF IMPACTS

5.1 General Framework

As required by FESA and NCCPA, the HCP/NCCP includes measures to avoid and minimize take of Covered Species and to conserve natural communities and Covered Species at the landscape-, habitat- and species-level. Chapter 6 of the HCP/NCCP provides further instructions to determine which avoidance and minimization measures are applicable to particular Covered Activities. PSE shall implement all applicable avoidance and minimization measures as required by the HCP/NCCP, including but not

limited to those identified in Chapter 6, as described in the Application and this Agreement.

5.2 Surveys and Avoidance Measures

Planning surveys are required prior to carrying out any Covered Activity for which a fee is collected or land in lieu of a fee is provided. PSE has submitted a planning survey report for approval by the Conservancy in accordance with Chapter 6.2.1 of the HCP/NCCP. This planning survey report is contained within the Application, which describes the results of the planning survey and describes in detail the pre-construction surveys, construction monitoring, avoidance measures and mitigation measures that apply to the OGS Project and shall be performed by PSE. Based on the Application, the Conservancy has determined that PSE will implement and comply with all applicable preconstruction surveys and construction monitoring requirements described in Chapters 6.2.2 and 6.2.3 of the HCP/NCCP.

5.3 No Take of Extremely Rare Plants or Fully Protected Species

Nothing in this Agreement, the HCP/NCCP or the Permits shall be construed to allow the Take of extremely rare plant species listed in Table 6-5 of the HCP/NCCP ("No-Take Plant Population") or any Fully Protected Species under California Fish and Game Code sections 3511, 4700, 4800, 5050 or 5515. PSE shall avoid Take of these species.

5.3.1 Golden Eagle

The Permits do not authorize Take of the golden eagle and PSE shall avoid Take of any golden eagle. The avoidance measures set forth in the HCP/PCCP, including but not limited to Conservation Measure 1.11, should be adequate to prevent Take of golden eagles, but the Conservancy shall notify PSE in writing of any additional or different conservation measures that are designed to avoid Take of these species and that apply to PSE. PSE shall implement all such avoidance measures to avoid Take of golden eagles.

5.4 Fees and Dedications

As set forth in the Application, PSE agrees to pay the Conservancy a one-time payment of **$530.441.06** which amount includes all HCP/NCCP mitigation fees necessary for the OGS Project. The payment also includes an amount sufficient to implement additional actions that will contribute to the recovery of endangered and threatened species ("Contribution to Recovery") and an amount that will be used to fund additional conservation planning in or near the HCP/NCCP area that will complement the HCP/NCCP and benefit species covered by the HCP/NCCP ("Complementary Conservation Planning"). The overall payment amount is a summation of the following mitigation fees and dedications:

HCP/NCCP mitigation fees:

Development Fee:	**$178.057.91**
Temporary Impact Fee:	**$52.383.15**
Contribution to Recovery:	**$200.000.00**
Contribution to Complementary Conservation Planning:	**$100.000.00**

The payment must be paid in full before any ground-disturbance associated with the OGS Project occurs. Notwithstanding the above, the Parties acknowledge that the Conservancy adjusts its fee schedule annually on March 15 of each year in accordance with the fee adjustment provisions of Chapter 9.3.1 of the HCP/NCCP. If PSE pays before March 15, 2012 and construction of the OGS Project commences before March 15, 2012, the amount due will be as stated above. If PSE pays on or after March 15, 2012 or construction of the OGS Project does not commence before March 15, 2012, the amount due will be subject to the annual fee adjustments for the Development Fee and the Temporary Impact Fee, and subject to annual adjustments of the Contribution to Recovery and the Contribution to Complementary Conservation Planning based on the formula set forth in Chapter 9.3.1 for the HCP/NCCP wetland mitigation fee. Based on these adjustments, if PSE pays before March 15 of any year, but construction does not commence before March 15 of that year, PSE will either be required to submit an additional payment for any increases or be entitled to a refund without interest for any decreases.

6.0 TAKE AUTHORIZATION

6.1 Extension of Take Authorization to PSE

As provided in Chapter 8.4 of the HCP/NCCP, after execution of this Agreement, payment of fees, compliance with the California Environmental Quality Act (Public Resources Code section 21000, et seq.) ("CEQA"), the Conservancy shall issue a Certificate of Inclusion to PSE that specifically describes the Authorized Take and required conservation measures and extends Take authorization under the Permits to PSE. PSE is ultimately responsible for compliance with all applicable terms and conditions of this Agreement, the IA, the HCP/NCCP and the Permits.

6.1.1 Compliance with the California Environmental Quality Act

For purposes of the OGS Project, the California Energy Commission ("CEC") is the CEQA lead agency and has exclusive jurisdiction. The CEC's regulatory program has been certified by the Secretary of Resources to be the functional equivalent of the CEQA environmental review process, and CEQA requirements pertaining to environmental impact reports and negative declarations therefore generally do not apply to the CEC. Instead, the CEC prepares "Staff Assessments" to analyze the potential environmental impacts of proposed projects. The Staff Assessment for the OGS Project is CEC Docket Number 09-AFC-4. Because the OGS Project is the subject of an environmental analysis prepared by the CEC pursuant to a certified regulatory program, CEQA does not apply to the Conservancy's issuance of a Certificate of Inclusion for the OGS Project. (Pub. Resources Code section 21080 (b)(6).)

6.2 Duration of Take Authorization

Once the Take authorization has been extended to the OGS Project, it shall remain in effect for a period of fifteen (15) years. unless and until the Permits are revoked by USFWS or CDFG, in which case the Take authorization may also be suspended or terminated.

7.0 RIGHTS AND OBLIGATIONS OF PSE

7.1 Rights

Upon the Conservancy's issuance of a Certificate of Inclusion to PSE, PSE may Take the Covered Species while carrying out the OGS Project in the Permit Area, as further authorized by and subject to the conditions of this Agreement, the IA, the HCP/NCCP, and the Permits. The authority issued to PSE applies to all of its elected officials, officers, directors, employees, agents, subsidiaries, contractors, and subcontractors, and their officers, directors, employees and agents to the extent that they participate in the implementation of the OGS Project. PSE shall periodically conduct an educational program to fully inform all such persons and entities of the terms and conditions of the Permits, and PSE shall be responsible for supervising their compliance with those terms and conditions. All contracts between PSE and such persons and entities shall require their compliance with the Permits.

7.2 General Obligations

The PSE will fully and faithfully perform all obligations assigned to it under this Agreement, the IA, the HCP/NCCP, the Permits, including but not limited to the obligations assigned in the following chapters of the HCP/NCCP: Chapter 6.0 (Conditions on Covered Activities), Chapter 8.4 (Participating Special Entities), and Chapter 9.0 (Funding). PSE shall implement all measures and adhere to all standards included in the Application, and PSE shall reserve funding sufficient to fulfill its obligations under this Agreement, the IA, the HCP/NCCP and the Permits throughout the term of this Agreement. PSE will promptly notify the Conservancy of any material change in its financial ability to fulfill its obligations under this Agreement.

7.3 Obligations In The Event of Suspension or Revocation

In the event that USFWS and/or CDFG suspend or revoke the Permits pursuant to Sections 19.0 and 21.0 of the IA, PSE will remain obligated to fulfill its mitigation, enforcement, management, and monitoring obligations, and its other HCP/NCCP obligations, in accordance with this Agreement and applicable statutory and regulatory requirements for all impacts resulting from OGS Project implementation prior to the suspension or revocation.

7.4 Interim Obligations upon a Finding of Unforeseen Circumstances

If the Wildlife Agencies make a finding of Unforeseen Circumstances with regard to a Federal Listed Covered Species, during the period necessary to determine the nature and location of additional or modified mitigation, PSE will avoid contributing to an appreciable reduction in the likelihood of the survival and recovery of the affected species. As described below at Section 15.2.2 and Section 15.3.2, the Wildlife Agencies shall be responsible for implementing such additional measures or modifications, unless PSE consents to do so.

7.5 Obligations In The Event Of Changed Circumstances

Changed Circumstances, as described in 50 Code of Federal Regulations section 17.22(b)(5)(i), are adequately addressed in Chapter 7 and Chapter 10 of the HCP/NCCP,

and PSE shall implement any measures for such circumstances as called for in the HCP/NCCP, as described in Section 12.2 of this Agreement.

7.6 Obligation to Compensate Conservancy for Administrative Costs

PSE shall compensate the Conservancy for its direct costs associated with this Agreement, including but not limited to, staff, consultant and legal costs incurred as a result of the review of the Application, drafting and negotiating this Agreement, monitoring and enforcement of this Agreement, and meetings and communications with PSE (collectively, Conservancy's "Administrative Costs"). Conservancy's Administrative Costs shall not exceed $35,000 in the aggregate. Conservancy acknowledges and agrees that PSE has paid $10,000 toward the Conservancy's Administrative Costs as of the Effective Date. Conservancy shall provide PSE with invoices detailing its Administrative Costs monthly or quarterly, at Conservancy's discretion. PSE shall remit payment of each invoice within thirty (30) days of receiving it.

This provision is not intended to, and shall not be construed to, limit PSE's duty to indemnify the Conservancy as provided in Section 7.7 of this Agreement.

7.7 Indemnification

PSE agrees to defend, indemnify, and hold harmless the Conservancy and its board members, officers, contractors, consultants, attorneys, employees and agents from any and all claim(s), action(s), or proceeding(s) (collectively referred to as "Proceedings") brought against Conservancy or its board members, officers, contractors, consultants, attorneys, employees, or agents arising out of or resulting from any of the following.

- Decisions or actions of the Conservancy related to the OGS Project, this PSE Agreement, or compliance with the California Environmental Quality Act of 1970, as amended ("CEQA") with regard to the OGS Project; and
- The negligence, recklessness, or intentional misconduct of any representative, employee, or agent of PSE.

Notwithstanding the above, (i) PSE shall have no duty to defend, indemnify, or hold harmless the Conservancy to the extent damages are sought in a tort claim arising out of or resulting from the individual negligence, recklessness, or intentional misconduct of any representative, employee, or agent of the Conservancy and (ii) the indemnification obligations set forth above shall in no way limit the rights and remedies of PSE with respect to any breach of the terms and conditions of this PSE Agreement by the Conservancy.

PSE's duty to indemnify the Conservancy includes, but is not limited to, damages, fees and/or costs awarded against or incurred by Conservancy, if any, and costs of suit, claim or litigation, including without limitation attorneys' fees and other costs, liabilities and expenses incurred in connection with any Proceedings.

7.7.1 Enforcement of Indemnification Provision

PSE agrees to indemnify Conservancy for all of Conservancy's costs, fees, and damages incurred in enforcing the indemnification provisions of this Agreement.

7.7.2 Compliance Costs

PSE agrees to defend, indemnify and hold harmless Conservancy, its officers, contractors, consultants, attorneys, employees and agents from and for all costs and fees incurred in additional investigation or study of, or for supplementing, redrafting, revising, or amending, any document (such as this Agreement or any document required for purposes of compliance with CEQA) if made necessary by any Proceedings.

7.7.3 Obligations in the Event of Litigation

In the event that PSE is required to defend Conservancy in connection with any Proceedings, Conservancy shall have and retain the right to approve, which approval shall not be withheld unreasonably:

- the counsel to so defend Conservancy;
- all significant decisions concerning the manner in which the defense is conducted; and
- any and all settlements.

Conservancy shall also have and retain the right to decline to participate in the defense, except that Conservancy agrees to reasonably cooperate with PSE in the defense of the Proceedings. If Conservancy participates in the defense, all Conservancy fees and costs shall be paid by PSE.

PSE's defense and indemnification of Conservancy set forth herein shall remain in full force and effect throughout all stages of litigation including any and all appeals of any lower court judgments rendered in the Proceedings.

8.0 REMEDIES AND ENFORCEMENT

If PSE fails to comply with the terms of this Agreement, the IA, the HCP/NCCP, or the Permits, the Conservancy may withdraw the Certificate of Inclusion and terminate any Take authorization extended to PSE. The Conservancy shall also have all of the remedies available in equity (including specific performance and injunctive relief) and at law to enforce the terms of this Agreement, the IA, the HCP/NCCP and the Permits, and to seek redress and compensation for any breach or violation thereof. The Parties acknowledge that the Covered Species are unique and that their loss as species would be irreparable and that therefore injunctive and temporary relief may be appropriate in certain instances involving a breach of this Agreement.

9.0 FORCE MAJEURE

In the event that a Party is wholly or partially prevented from performing obligations under this Agreement because of unforeseeable causes beyond the reasonable control of and without the fault or negligence of Party ("Force Majeure"), including, but not limited to, acts of God, labor disputes, sudden actions of the elements not identified as Changed Circumstances, or actions of non-participating federal or state agencies or local jurisdictions, the Party shall be excused from whatever performance is affected by such

unforeseeable cause to the extent so affected, and such failure to perform shall not be considered a material violation or breach, provided that nothing in this section shall be deemed to authorize either Party to violate FESA, CESA or NCCPA, and provided further that:

- The suspension of performance is of no greater scope and no longer duration than is required by the Force Majeure;
- Within seven (7) days after the occurrence of the Force Majeure, the Party invoking this section shall give the Conservancy written notice describing the particulars of the occurrence;
- The Party shall use best efforts to remedy its inability to perform (however, this paragraph shall not require the settlement of any strike, walk-out, lock-out or other labor dispute on terms which in the sole judgment of the Party is contrary to its interest); and
- When the Party is able to resume performance of their obligations, it shall give the other Party written notice to that effect.

10.0 MISCELLANEOUS PROVISIONS

10.1 Calendar Days

Throughout this Agreement and the HCP/NCCP, the use of the term "day" or "days" means calendar days, unless otherwise specified.

10.2 Notices

Any notice permitted or required by this Agreement shall be in writing, and delivered personally, by overnight mail, or by United States mail, certified and postage prepaid, return receipt requested. Notices may be delivered by facsimile or electronic mail, provided they are also delivered by one of the means listed above. Delivery shall be to the name and address of the individual responsible for each of the Parties, as follows:

John Kopchik

East Contra Costa County Habitat Conservancy

c/o Contra Costa County Department of Conservation and Development

651 Pine Street, North Wing, 4th Floor

Martinez, CA 94553

Email: john.kopchik@dcd.cccounty.us

Phone: 925-335-1227

Bryan Bertacchi

President

Contra Costa Generating Station LLC

P.O. Box 1690

Danville, CA 94526

Email: Byran.Bertacchi@radback.com

Phone: 925-820-5222

Notices shall be transmitted so that they are received within the specified deadlines. Notices delivered personally shall be deemed received on the date they are delivered. Notices delivered via overnight delivery shall be deemed received on the next business day after deposit with the overnight mail delivery service. Notice delivered via certified mail, return receipt requested, shall be deemed received as of the date on the return receipt or five (5) days after deposit in the United States mail, whichever is sooner. Notices delivered by facsimile or other electronic means shall be deemed received on the date they are received.

10.3 Entire Agreement

This Agreement, together with the IA, the HCP/NCCP and the Permits, constitutes the entire agreement among the Parties. This Agreement supersedes any and all other agreements, either oral or in writing, between the Parties with respect to the subject matter hereof and contains all of the covenants and agreements among them with respect to said matters, and each Party acknowledges that no representation, inducement, promise of agreement, oral or otherwise, has been made by any other Party or anyone acting on behalf of any other Party that is not embodied herein.

10.4 Amendment

This Agreement may only be amended with the written consent of both Parties.

10.5 Attorneys' Fees

If any action at law or equity, including any action for declaratory relief is brought to enforce or interpret the provisions of this Agreement, the Conservancy shall be able to recover its attorneys' fees and costs if it prevails.

10.6 Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the United States and the State of California, as applicable.

10.7 Duplicate Originals

This Agreement may be executed in any number of duplicate originals. A complete original of this Agreement shall be maintained in the official records of each of the Parties hereto.

10.8 Relationship to the FESA, CESA, NCCPA and Other Authorities

The terms of this Agreement are consistent with and shall be governed by and construed in accordance with FESA, CESA, NCCPA and other applicable state and federal law.

10.9 No Third Party Beneficiaries

Without limiting the applicability of rights granted to the public pursuant to FESA, CESA, NCCPA or other applicable law, this Agreement shall not create any right or interest in the public, or any member thereof, as a third party beneficiary thereof, nor shall it authorize anyone not a Party to this Agreement to maintain a suit for personal injuries or property damages under the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third party beneficiaries shall remain as imposed under existing state and federal law.

10.10 References to Regulations

Any reference in this Agreement, the IA, the HCP/NCCP, or the Permits to any regulation or rule of the Wildlife Agencies shall be deemed to be a reference to such regulation or rule in existence at the time an action is taken.

10.11 Applicable Laws

All activities undertaken pursuant to this Agreement, the IA, the HCP/NCCP, or the Permits must be in compliance with all applicable local, state and federal laws and regulations.

10.12 Severability

In the event one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable by any court of competent jurisdiction, such portion shall be deemed severed from this Agreement and the remaining parts of this Agreement shall remain in full force and effect as though such invalid, illegal, or unenforceable portion had never been a part of this Agreement.

10.13 Due Authorization

Each Party represents and warrants that (1) the execution and delivery of this Agreement has been duly authorized and approved by all requisite action, (2) no other authorization or approval, whether of governmental bodies or otherwise, will be necessary in order to enable it to enter into and comply with the terms of this Agreement, and (3) the person executing this Agreement on behalf of each Party has the authority to bind that Party.

10.14 Assignment

This Agreement shall be binding upon and inure to the benefit of each of the Parties and any permitted assigns. No Party shall assign this Agreement or its rights or interests hereunder without the prior written consent of the other Party, such consent not to be unreasonably withheld or delayed. Notwithstanding the above, the Parties agree that PSE may, without Conservancy's prior written consent, do the following: (1) assign its rights and delegate its duties under this Agreement to PG&E, and/or (2) collaterally assign its rights and delegate its duties under this Agreement to any OGS Project lender. Upon assignment, the assignee must obtain, and the Conservancy shall provide, a revised

Certificate of Inclusion that identifies the assignee as the recipient of the Take authorization provided by this Agreement.

10.15 Headings

Headings are using in this Agreement for convenience only and do not affect or define the Agreement's terms and conditions.

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Implementing Agreement to be in effect as of the date last signed below.

EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

By:_____ DATE: 5/24/2011

JOHN KOPCHIK, Executive Director

CONTRA COSTA GENERATING STATION LLC (CCGS)

By:_____ DATE: 4/18/2011

BRYAN BERTACCHI, President

Certificate of Inclusion

EAST CONTRA
COSTA COUNTY
HABITAT
CONSERVANCY

City of Brentwood
City of Clayton
City of Oakley
City of Pittsburg
Contra Costa County

May 31, 2011

Bryan Bertacchi
President
Contra Costa Generating Station LLC
P.O. Box 1690
Danville, CA 94526

Re: Certificate of Inclusion for Contra Costa Generating Station, LLC for the Oakley Generating Station Project

Dear Mr. Bertacchi:

The United States Fish and Wildlife Service and the California Department of Fish and Game have issued Permits pursuant to the federal Endangered Species Act and the California Natural Community Conservation Planning Act (collectively "Permits") authorizing "Take" of certain species in accordance with the terms and conditions of the Permits, the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan ("HCP/NCCP") and the January 22, 2007 Implementing Agreement for the HCP/NCCP ("Implementing Agreement"). Under the Permits, the East Contra Costa County Habitat Conservancy ("Conservancy") may extend "Take" authorization to "participating special entities" under certain circumstances. The "Take" authorization allows "Take" of certain "covered species" that are protected under the federal Endangered Species Act or the California Endangered Species Act. To obtain a Take authorization, a participating special entity must enter into a Participating Special Entity Agreement with the Conservancy in which the entity agrees to implement and adhere to all applicable terms and conditions of the HCP/NCCP, the Implementing Agreement and the Permits with regard to a specific project or activity that the entity proposes to implement.

Contra Costa Generating Station, LLC ("CCGS") has entered into a Participating Special Entity Agreement with the Conservancy with regard to the Oakley Generating Station Project, the "Participating Special Entity Agreement between the East Contra Costa County Habitat Conservancy and the Contra Costa Generating Station, LLC," dated May 24, 2011 (the "PSE Agreement").

As provided in the PSE Agreement, CCGS has committed to fulfill the conditions for coverage under the Permits for incidental take of "covered species," as identified in the HCP/NCCP, resulting from implementation of the Oakley Generating Station Project ("OGS Project"), as defined in the PSE Agreement. This Certificate of Inclusion authorizes the Take of the covered species identified in the HCP/NCCP resulting from implementation of the OGS Project. A list of species covered by HCP/NCCP is attached. Take authorization under the Permits

applies only to implementation of the OGS Project, as described in the PSE Agreement, and is subject to the terms and conditions of the PSE Agreement.

This Certificate of Inclusion does not increase the authority of any state or federal regulatory agency over CCGS. Instead, it is intended to verify that the Conservancy has extended Take Authorization to CCGS under the Permits issued to the Conservancy.

Coverage under the Permits is effective immediately upon CCGS' receipt of this Certificate of Inclusion. If CCGS does not fully comply with the PSE Agreement, the Conservancy can suspend or revoke the Take authorization, in which case CCGS must promptly return this Certificate of Inclusion to the Conservancy.

This Certificate of Inclusion applies only to CCGS. If CCGS assigns its rights and duties under the PSE Agreement to another entity, the assignee must obtain a Certificate of Inclusion from the Conservancy that specifically identifies the assignee.

If you should have any questions, please call me at (925) 335-1227.

Sincerely,

John Kopchik
Executive Director

Attachment.

Attachment 1: Special-Status Species Covered by the HCP/NCCP

Common Name	Scientific name
Mammals	
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*
San Joaquin kit fox	*Vulpes macrotus mutica*
Birds	
Tricolored Blackbird	*Agelaius tricolor*
Golden Eagle	*Aquila chrysaetos*
Western Burrowing Owl	*Athene cunicularia hypugea*
Swainson's Hawk	*Buteo swainsoni*
Reptiles	
Silvery legless lizard	*Anniella pulchra pulchra*
Alameda whipsnake	*Masticophis lateralis euryxanthus*
Giant garter snake	*Thamnophis gigas*
Western pond turtle	*Clemmys marmorata*
Amphibians	
California tiger salamander	*Ambystoma californiense*
California red-legged frog	*Rana aurora draytonii*
Foothill yellow-legged frog	*Rana boylii*
Invertebrates	
Longhorn fairy shrimp	*Brachinecta longiantenna*
Vernal pool fairy shrimp	*Brachinecta lynchi*
Midvalley fairy shrimp	*Brachinecta mesovallensis*
Vernal pool tadpole shrimp	*Lepidurus packardi*
Plants	
Mount Diablo manzanita	*Arctostaphylos auriculata*
Brittlescale	*Atriplex depressa*
San Joaquin spearscale	*Atriplex joaquiniana*
Big tarplant	*Blepharizonia plumosa*
Mount Diablo fairy lantern	*Calochortus pulchellus*
Recurved larkspur	*Delphinium recurvatum*
Round-leaved filaree	*Erodium macrophyllum*
Diablo helianthella	*Helianthella castanea*
Brewer's dwarf flax	*Hesperolinon breweri*
Showy madia	*Madia radiata*
Adobe navarretia	*Navarretia nigelliformis* ssp. *nigelliformis*

Appendix C
Resumes of Designated Biologist and Biological Monitors

CCGS LLC
PO Box 1690
Danville, CA 94526

March 18, 2011

Mr. Craig Hoffman, CPM
(09-AFC-4C)
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

SUBJECT: Oakley Generating Station (09-AFC-4C)
BIO-1 Proposed Designated Biologist and Resume

Dear Mr. Hoffman:

Please find attached the resume for Rick Crowe, who is our proposed Designated Biologist for the Oakley Generating Station (OGS). Mr. Crowe is a Project Biologist with CH2M HILL. The attached resume has been submitted for Staff review, in accordance with Condition of Certification BIO-1.

Contra Costa Generating Station LLC (CCGS LLC) acknowledges that OGS has not yet been certified by the California Energy Commission (CEC). Submittal of this compliance information is at CCGS LLC's risk and in no way implies or predisposes project certification by the CEC.

If you have any questions regarding this submittal, please do not hesitate to contact me at (916) 799-9463 or Doug Davy at (916) 286-0278.

Sincerely,

Greg Lamberg
CCGS LLC
Senior Vice President

Attachment: Resume for the Proposed Designated Biologist

cc: Jim McLucas, CCGS LLC
Doug Davy, CH2M HILL
Krystal Hinojosa, East Contra Costa County Habitat Conservancy

Richard E Crowe

Senior Environmental Technician/CH2M HILL

Mr. Crowe is an experienced field biologist with fourteen years of experience including specific expertise with special-status species surveys, wetland delineations, permitting, and construction management in the Central Valley. He is experienced in working within NEPA and CEQA guidelines and have conducted technical studies in support of numerous AFC's, EIR, NES, Initial Studies, and other environmental documents.

Education

B.S. – Wildlife Biology/Forestry in progress.

Professional Registrations

Endangered Species Act Section 10 Scientific Take Permit for Vernal Pool Invertebrates

California Department of Fish and Game Scientific Collector's Permit

Distinguishing Qualifications

- Over Fourteen years experience working in Central Valley ecosystems
- Extensive experience in conducting pre-construction surveys and construction monitoring
- Extensive experienced with monitoring horizontal directional drilling projects, monitored 53 horizontal directional drills to date
- Experienced and trained wetland delineator
- Experienced with vernal pool invertebrates
- Recognized by the California Department of Fish and Game as qualified to conduct surveys for sensitive raptors throughout San Joaquin and Sacramento counties
- Experienced with NEPA and CEQA guidelines
- Experienced with preparing a variety of environmental permits and documents

Selected Project Experience

Lodi Energy Center, Northern California Power Authority (NCPA), San Joaquin County, CA.
Biologist in charge of endangered/threatened species and nesting bird surveys in support of mitigating project impacts through the San Joaquin County Habitat Conservation Program. Worked directly with California Energy Commission (CEC) staff on mitigating project impacts and with wording of the CEC Preliminary Staff Assessment and Final Staff Assessment. Currently CEC Designated Biologist for construction and operation of a 296-megawatt combined cycle power plant. Currently performing all duties associated with biological compliance and construction monitoring, as well as submitting Monthly Compliance Reports documenting compliance to the California Energy Commission.

Los Medanos Energy Center to Dow Pittsburg Transmission Line Project, Contra Costa County, CA. Designated Biologist for construction of transmission line project. Performed all duties associated with biological compliance and construction monitoring, submitted Monthly Compliance Reports (MCR's) documenting compliance to California Energy Commission.

Colusa Generating Station, PG&E, Colusa County, CA. Designated Biologist for construction and operation of a 660-megawatt combined-cycle power plant. Performed all duties associated with biological compliance and construction monitoring, submitted MCR's documenting compliance to the California Energy Commission.

Humboldt Generating Station, PG&E, Humboldt County, CA. Co-Designated Biologist for construction and operation of a 660-megawatt combined-cycle power plant. Performed all duties associated with biological compliance and coordinated Biological Monitoring with on-site Biological Monitor.

Gateway Generating Station, PG&E, Contra Costa County, CA. Biological Monitor for construction of 660-megawatt combined-cycle power plant**.** Performed all duties associated with biological compliance and construction monitoring, submitted Monthly Compliance Reports (MCR's) documenting compliance to California Energy Commission (CEC).

Praxair Hydrogen Pipeline Project, Contra Costa County, CA. Lead field biologist in support of permitting and Biological Resources Evaluation for a 21.5 mile, 12-inch diameter hydrogen gas pipeline and associated natural gas. Conducted wetland delineation, special status species surveys, extensive tree inventory, and assisted in rare plant and botanical surveys.

Roseville Electric, Roseville Electric Park, Roseville CA. Biological monitor for ongoing construction of a 125 mega-watt power plant. Conducted all forms of biological monitoring on power plant and associated linear facilities. Storm Water Pollution Prevention Plan inspector for City of Roseville on Roseville Electric Park project..

ARB, Inc., Concord to Sacramento Pipeline Project. Environmental Coordinator on 71-mile 20-inch petroleum products pipeline between Concord and Sacramento, California. Biologist responsible for environmental compliance and multi-agency liaison.

Roseville Electric, Reason Farms North Parcel, Placer County, CA. Conducted Jurisdictional Wetlands and Waters of the U.S. on 116 acre proposed mitigation parcel for future Roseville Energy Park.

Calpine Natural Gas Company, Rio Vista Pipeline Project. Biologist responsible for permitting, wetland delineating, threatened and endangered species surveys, biological monitoring, consultation with Fish and Wildlife Service and agency liaison. Project consisted of 11.5 mile 12" natural gas pipeline with an associated 1-mile horizontal directional drill beneath the Sacramento River.

Merced Irrigation District Foster Farms Transmission Line Project Supplemental EIR. Conducted biological studies for 25-mile transmission line in Stanislaus and Merced counties. Conducted wetland delineation using the ACOE 1987 methodology, mapped potential fairy shrimp habitat, and conducted site reconnaissance of potential substation and river crossing locations.

Wetland Delineation, Red Beach Training Area, Camp Pendleton, CA. Conducted wetland delineation on 1,122 acres of assorted plant communities within Camp Pendleton Marine Corps Base.

Calpine Corporation, Sutter Energy Center, Sutter County. Conducted 5 year Avian Collision Study on new Western Area Power Administration transmission lines from Sutter Energy Center to O'Banion Substation.

Modesto Irrigation District Utilities Project. Biologist responsible for construction monitoring and supervising crews during construction for protection of potential valley elderberry longhorn beetle habitat during transmission line upgrades and new substations in the vicinity of Ripon and Riverbank.

Calpine Sutter Power Plant Project. Field assistant for habitat mapping of Swainson's hawk, giant garter snake, and vernal pool fairy shrimp to determine potential construction impacts and the need for possible pre-construction surveys and monitoring during construction. Also assisted with wet-season vernal pool invertebrate sampling using USFWS approved protocols.

SMUD, Consumes Power Plant Project, Sacramento County. Conducted giant garter snake, burrowing owl, Valley Elderberry Longhorn Beetle surveys and consultation with Fish and Wildlife Service. Assisted with cultural studies on 26 +/- mile natural gas pipeline, studies included pedestrian transects, use of ground penetrating radar on selected areas, and sifting soil in 1-meter square points along right-of-way.

Obsidian Butte Pipeline Project, Salton Sea. Assisted with archeological pedestrian surveys for the Obsidian Butte pipeline project at the Salton Sea.

Calpine Corporation, Calpine Natural Gas Company, Sacramento and Solano Counties. On-call biologists for Calpine Natural Gas Company, duties include; Fish and Game, Army Corps permitting. And construction monitoring during construction.

Calpine Corporation, Delta Energy Center, Contra Costa County. Biological monitor for construction of a 880 mega-watt power plant. Conducted all forms of biological monitoring on power plant and associated linear facilities. Key contact with California Department of Fish and Game Wardens during all facets of construction.

1700-acre wetland delineation for the Army Corps of Engineers, Chico, California. Conducted wetland delineation on Rock Creek-Keefer Slough Flood Control Project.

Shotgun Creek Estates EIR. Field assistant for biological studies in support of EIR on proposed 1,600-acre residential subdivision in the Tuolumne County foothills. Assisted with 1994-95 USFWS protocol vernal pool invertebrate surveys in a 250-acre portion of the project site.

Camanche Greens EIR. Field technician for studies in support of Environmental Impact Report Biology Chapter for a proposed 514-acre residential and golf course subdivision in western Amador County. Assisted in wetland delineation using the ACOE 1987 methodology and conducted elderberry shrub inventory and inspection for the federally threatened valley elderberry longhorn beetle according to USFWS 1994 guidelines.

Army Corps of Engineers Phase 111 Levee Repairs at 284 individual work sites in San Joaquin and Stanislaus Counties. Developed and implemented a worker environmental awareness program. Conducted pre-construction surveys and photo-documentation, focused at ensuring contractor compliance with Endangered Species Act, Clean Water Act and Corps of Engineers Section 01130 environmental protection programs. Conducted photo-documentation of post-construction conditions at established photo-stations, and compiled all of the above documentation for submittal to the Corps.

Army Corps of Engineers Phase 111 Levee Repairs at 166 individual work sites in Sacramento, Solano, and Yolo Counties. Developed and implemented a worker environmental awareness program, with emphasis on identification of giant garter snake and its habitat. Conducted pre-construction surveys and photo-documentation, focused at ensuring contractor compliance with Endangered Species Act, Clean Water Act and Corps of Engineers Section 01130 environmental protection programs. Participated in field meetings at individual work sites with responsible agencies and their contractors to identify environmentally superior construction methods. Conducted photo-documentation of post-construction

conditions at established photo-stations, and compiled all of the above documentation for submittal to the Corps.

San Joaquin County Department of Public Works Roads and Bridges. Principal field biologist for all of San Joaquin Counties road maintenance projects, flood damaged road projects, flood damaged bridge projects and seismic retrofit projects. Duties include biological assessments of each site, Natural Environment Studies (NES) for federally funded sites and conducting database searches, evaluating biological resource impacts, developing mitigation measures as needed, and ensuring compliance with the Endangered Species Act and Clean Water Act on rapid turn-around public works projects.

Weston Ranch Bridge Project. Conducted intensive construction monitoring of an active Swainson's hawk nest for eight weeks during pile driving associated with construction of a new bridge. Documented hawk activity, monitored noise levels, and recorded construction activities. Upon completion, assisted in the preparation of a comprehensive monitoring report that was submitted to CDFG. Currently monitoring revegetation activities at the old bridge site as a requirement of the CDFG Streambed Alteration Agreement.

Central Valley Agriculture Facilitation. Conducted wetland determinations and formal wetland delineation's for numerous farmers in Merced, Stanislaus, San Joaquin, and Contra Costa counties; most of the projects involved conversion of grazing land to orchards and vineyards. The studies were conducted pursuant to both USDA Farm Bill and the Clean Water Act.

Kirkwood Ski Resort Biological Studies. Field assistant for biological studies for over 300 acres zoned for future land development activities in the Kirkwood community. Conducted wetland delineation using the ACOE 1987 methodology, processed field data, and prepared report for submittal to the ACOE. Conducted mountain yellow-legged frog surveys in all major waterways within the 300 acres project site.

Sutter Gold Venture Lincoln Project Access Road. Conducted inspection for the federally-threatened valley elderberry longhorn beetle or evidence of past inhabitation on an elderberry shrub located within the construction zone for a proposed access road to a gold processing plant.

Evaluation of Second-Growth Forest Treatments for Wildlife; USDA Forest Service, Clearwater Valley in Gifford Pinchot National Forest, WA. Field technician for conducting research to determine the effects of various silviculture modifications of second growth forest on wildlife. Fieldwork included, data collection for tree growth parameters, setting up and laying out research grids, and conducting wildlife observations.

Forest Stand Exams; USDA Forest Service, Deschutes National Forest; Oregon. Field crew leader for conducting intensive forest stand exams on 55,000 acres of the Deschutes National Forest. Responsible for data management and quality control of over 12,000 individual sample points, including forest measurements, forest disease evaluation, habitat evaluation, and sensitive plant and wildlife surveys. Assisted in coordination and organization of 20 crew members, including subcontractors, for field data collection and on-site daily planning.

Natural Resource Inventory for North Stockton Projects, CA. Field technician for biological studies in support of Environmental Impact Report for proposed 800-acre residential development in north Stockton. Assisted with 1994-95 USFWS protocol vernal pool invertebrate surveys in a 40-acre portion of the project site.

Calaveras Springs Special Plan Project Vernal Pool Invertebrates Surveys. Field assistant for biological studies for 150-acre commercial, industrial, and residential development project in Calaveras County. Conducted USFWS protocol vernal pool invertebrate surveys and assisted with field verification of previously delineated wetlands.

Ringtail Population Monitoring Project. Student research assistant for ringtail populations studies in Brockman Canyon, South Sutter Buttes, CA. Assisted with trapping, measuring, and tagging ringtails.

California Department of Transportation Beach Lake Mitigation Bank. Field assistant for full protocol giant garter snake surveys of Morrison Creek for I-5 overpass widening, construction of giant garter snake hibernacula, and installation and monitoring of artificial burrows for burrowing owls.

Specialized Training

- Wetland Delineation, Richard Chinn Environmental Training, Inc., 1998
- Fairy Shrimp Identification, Dr. Denton Belk, 1998
- OSHA, 40-hour Hazardous Materials Training, Network Environmental Systems
- First Aid and CPR Training, American Red Cross
- 10-Hour Construction Safety Awareness Training CH2M HILL
- Site Safety Coordinator Training, CH2M HILL
- Hydric Soils Workshop, Dr. J. Herbert Huddleston, Oregon State University

Memberships in Professional Organizations

- Burrowing Owl Consortium
- California Inland Invertebrate Working Group
- National Audubon Society
- Ducks Unlimited
- Stone Lakes National Wildlife Refuge Association
- Bat Conservation International
- California Waterfowl Association
- California Native Grass Association

REFERENCES:

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Senior Project Manager
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Fax 916-614-3407
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Tel 916.920.0300

CH2MHILL

April 12, 2011

Mr. Craig Hoffman, CPM
(09-AFC-4C)
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

SUBJECT: Oakley Generating Station (09-AFC-4C)
BIO-3, BIO-14, BIO-16 Resumes for the Proposed Biological Monitors

Dear Mr. Hoffman:

As the Designated Biologist for the Oakley Generating Station (OGS), I am transmitting this letter to propose the team of biological monitors for OGS. The following biologists have been proposed for California Energy Commission (CEC) Compliance Project Manager (CPM) approval, in consultation with the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), and the East Contra Costa County Habitat Conservancy (Conservancy), as outlined in Condition of Certification BIO-3.

Vic Leighton is proposed as the lead Biological Monitor for OGS, in accordance with COC BIO-3. Mr. Leighton is a biologist employed at CH2M HILL. Mr. Leighton has surveyed and assisted on surveys in the field and is familiar with the following species of concern including California red-legged frog, California tiger salamander, San Joaquin kit fox, western pond turtle, burrowing owl, Swainson's hawk and other nesting birds, and American badger. I have reviewed Mr. Leighton's qualifications and they meet the minimum qualifications for biological monitoring required by Condition of Certification BIO-3, as well as, Conditions BIO-14 and BIO-16. Mr. Leighton is available for work from the inception of OGS construction activities to the conclusion of construction activities. A copy of Mr. Leighton's resume and three references are attached.

The following individuals are proposed to provide additional biological monitoring support for OGS, in accordance with BIO-3, BIO-14, and BIO-16: Dan Williams, Thomas Davis, Daniel Weinberg. All three additional biological monitors are biologists employed at CH2M HILL. I have reviewed their qualifications and they meet the minimum qualifications for biological monitoring required by Condition of Certification BIO-3, BIO-14, and BIO-16 and are available for work on OGS. Individual resumes and three references for each monitor are attached.

I will submit a written statement confirming that the individual biological monitors have been trained when the WEAP training materials have been finalized and the training has been completed.

If you have any questions regarding this submittal, please do not hesitate to contact me at (916) 296-5525, Greg Lamberg at (916) 799-9463, or Doug Davy at (916) 286-0278.

Sincerely,

Rick Crowe

Rick Crowe
CH2M HILL
OGS Designated Biologist

Attachment: Biological Monitor Resumes for OGS (09-AFC-4C)

cc: Randi Adair, California Department of Fish and Game
Stephanie Jentsch, U.S. Fish and Wildlife Service
John Kopchik, East Contra Costa County Habitat Conservancy
Greg Lamberg, CCGS LLC
Jim McLucas, CCGS LLC
Doug Davy, CH2M HILL

Victor N Leighton III

Wildlife and Wetland Biologist

Education

A.S. Forestry/Wildlife Biology, American River College

Distinguishing Qualifications

Extensive experience in wetlands delineations throughout California, Nevada, and Utah, Wetland Delineation Certified (WTI) April 2003, advanced course and field work in hydric soils with specialized field training in saline and sodic soil conditions.

California Native Plant Society Vernal Pool Plant Taxonomy Trained April 2007.

GPS certified and trained in Trimble® and TerraSync® August 2006.

Extensive experience in Global Positioning System (GPS) usage and training.

Conducted numerous small and large scale rare plant surveys in California and Nevada. Experienced in plant population monitoring for terrestrial and aquatic species and conducted large and small scale native plant restoration projects within California's Central Valley.

California Department of Fish and Game and U.S. Fish and Wildlife Service approved biologist and biological monitor for numerous species throughout California.

Perform protocol surveys for: Northern spotted owl, Swainson's hawk, burrowing owl, valley longhorn elderberry beetle, San Joaquin kit fox, swift fox, Utah prairie dog, giant garter snake, California tiger salamander, California red-legged frog and desert tortoise. Including small and medium mammal surveys, trapping, track plates, and photo stations.

Passive relocation and artificial burrow construction for burrowing owl.

Nesting birds surveys for raptors and passerines in California, Utah, and Nevada.

Extensive experience in construction monitoring on a wide variety of projects related to biological resources. Completed and orchestrated Worker Environmental Awareness Training (WEAT/WEAP) programs including resource videos, posters, and pamphlets for numerous projects throughout California, including California Energy Commission (CEC) projects.

Experienced in Horizontal Directional Drilling (HDD) and monitoring procedures.

Biological Report Writing: Permit, PEIR, Application for Certification and Biological Assessment.

Relevant Experience

Mr. Leighton has over 15 years of experience with a variety of environmental studies including general wildlife and plant surveys, wetland delineations, threatened and endangered species surveys, mammal surveys and trapping, native plant propagation, and restoration of native ecosystems, including native grasslands, wetlands, and riparian habitats. Mr. Leighton is knowledgeable of the flora and fauna of the Sacramento and San Joaquin Valley, foothills, and Sierra Nevada Mountain regions; familiar with the biology, distribution, listing status, and survey techniques of numerous Federal, State of California, and other rare and sensitive species occurring in California. Mr. Leighton work as a field and task lead for large and small scale project and has conducted protocol surveys for sensitive wildlife including California/Northern spotted owl, Valley elderberry longhorn beetle, Swainson's hawk, burrowing owl, giant garter snake, San Joaquin kit fox, vernal pool fairy shrimp, desert tortoise, and various denning mammals. Mr. Leighton has conducted water quality sampling using sterile techniques; sterile techniques for collection of aquatic invertebrates and fish tissues as well as performed growth rate analysis of aquatic flora for above and below ground bio-mass studies.

Extensive experience in conducting large and small scale wetland delineations, protocol surveys, pre-construction surveys and construction monitoring, report writing and GPS utilization. Preformed agency-mandated Worker Environmental Awareness Training packages and training sessions to construction crews, with regards to special-status species and habitat protection requirements during construction activities. Extensive monitoring experience of Horizontal Directional Drilling (HDD) and other construction related projects and construction crews working within or in close proximity to sensitive habitats and species; these efforts are frequently related to wetland and Waters of the U.S., Swainson's hawk, valley elderberry longhorn beetle, burrowing owl, and giant garter snake. Mr. Leighton has successfully negotiated construction methods and protocols with USFWS, CDFG, and the California Public Utility Commission. Knowledgeable about current environmental laws, policies and regulation and familiar with environmental information resources and tools including scientific literature, computerized database, academic and agency specialist, and maps and aerial photographs.

Representative Projects

Pacific Gas and Electric; Pipeline 406 and 407 Project; California.
Lead Biological Monitor for 30-inch pipeline project through the Central Valley. Client and Environmental Compliance Manager liaison to support CEQA, U.S. Fish and Wildlife Service, the Federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA). This included Jurisdictional wetlands protected by the US Army Corps of Engineers under Section 404 of the Clean Water Act. The California

Department of Fish and Game (CDFG), California Endangered Species Act, streams, water bodies, and riparian corridors covered under the Streambed Alteration Agreement process under Section 1600 of the CDFG Code, and under Section 3503.5, protecting wildlife and sensitive habitats.

Bright Source Energy; Ivanpah ISEGS Project; California.
Conducted USACE approved jurisdictional wetland and Waters of the U.S. delineation, rare plant surveys for the 2007 through 2009 survey periods. Assisted SNEI biologist in protocol desert tortoise surveys for the proposed translocation/relocation areas associated with the Ivanpah ISEGS Project components. Conducted habitat assessment surveys utilizing vegetation releve' plots for the Ivanpah solar sites and the translocation and relocations area components of this project.

Holly Energy Partners L.P.; Utah to Nevada Pipeline; California, Utah.
Conducted USACE approved jurisdictional wetland and Waters of the U.S. delineation along the proposed 430-mile pipeline corridor from Las Vegas, Nevada to Salt Lake City, Utah. Surveys were conducted in difficult arid region environments. Surveys were conducted using GeoXT GPS units' aerial photos to provide sub-meter accuracy. Attended U.S. Fish and Wildlife Service approved desert tortoise workshop on protocols for construction monitoring and designated biologist training for survey techniques, relocation, transportation and handling techniques and instructional training with Southern Nevada Environmental Inc. (SNEI) and the U.S. Fish and Wildlife Service.

San Francisco Public Utility Commission; Hetch Hetchy Water and Power (HHWP); Moccasin, CA. Field and task lead for biological habitat assessment and cursory wetland assessment surveys to be utilized for HHWP programmatic maintenance program. Client liaison and document preparer to support CEQA, U.S. Fish and Wildlife Service, the Federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA). This included Jurisdictional wetlands protected by the US Army Corps of Engineers under Section 404 of the Clean Water Act. The California Department of Fish and Game (CDFG), California Endangered Species Act, streams, water bodies, and riparian corridors covered under the Streambed Alteration Agreement process under Section 1600 of the CDFG Code, and under Section 3503.5, protecting wildlife and sensitive habitats.

Reclamation District 108 (RD 108); Knights Landing, CA. Designated On-call biologist for water improvement construction projects along the Sacramento River. Mr. Leighton was the designated Fish and Wildlife Service giant garter snake (GGS) approved biologist. Mr. Leighton coordinated and administered Worker Environmental Awareness Training (WEAT) to construction crews at various RD 108 improvements at several locations along the Sacramento River. Mr. Leighton

conducted preconstruction surveys and directed exclusion fencing related to several the giant garter snake per FWS Biological Opinion.

Army Corps of Engineers; Sacramento, CA. Lead biologist for levee upgrades along the Sacramento River system. Mr. Leighton was a Fish and Wildlife approved biologist for GGS and conducted pre-construction surveys, WEAT training and oversight to construction monitors and conducted biological monitoring during construction operation related to GGS.

UPC Wind; Milford Wind Corridor; Milford, UT. Field lead for presence/absence surveys for kit fox, *Vulpes macrotis* a Utah Wildlife Species of Concern. This work incorporated the following survey methods: denning surveys, spotlighting, camera and scent stations. Field biologist for Utah prairie dog surveys. Field survey techniques were focused on the approximately 25,000-acre wind farm. Project work also included 14 meteorological towers throughout the surrounding basin. The purpose of the survey was to visually inspect tower location to identify important biological resource concerns in the vicinity and evaluate to potential for adverse impacts to biological resources.

Oakdale Irrigation District (OID); Water Resource Plan PEIR; Oakdale, CA. Conducted biological reconnaissance surveys to address biological resources related to existing conditions and potential impacts of OID future projects. Prepared the biological section of the PEIR for OID to address CEQA, U.S. Fish and Wildlife Service, federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA). Jurisdictional wetlands protected by the US Army Corps of Engineers under Section 404 of the Clean Water Act. The California Department of Fish and Game (CDFG), California Endangered Species Act, streams, water bodies, and riparian corridors covered under the Streambed Alteration Agreement process under Section 1600 of the CDFG Code, and under Section 3503.5, protecting wildlife and sensitive habitats.

Pacific Gas and Electric Company; Pit 3, 4, and 5 Hydroelectric Project FERC Project; CA. Wrote and prepared the terrestrial wildlife monitoring plan for monitoring terrestrial USDA-FS special-status species. The plan included detailed survey methods, schedules, monitoring to be implemented using protocol methods or where accepted protocols were not in place utilizing best scientific methods and standards for surveying special-status species (e.g., bats, fisher, marten) as part of Article 405 U.S. Department of Agriculture-USDA_FS 4(e) Condition 23 as part of the conditions for relicensing.

U.S. Army Combat Support Training Center; Camp Parks; Dublin, CA. Conducted USFWS approved methodology for survey protocol for the San Joaquin kit fox including denning surveys, spotlighting, camera and scent stations. CDFG/California Burrowing Owl Consortium protocol and survey and mitigation

standards, these activities included mapping of all active burrows including satellite burrows, on-site creation of burrows for mitigation, passive relocation, and exclusion of owls. Burrows were peeped with and inferred down-burrow scope, prior to excavation.

Riverside County Transportation Commission; State Route 79 Realignment Project; Western Riverside County, CA. Conducted USACE approved jurisdictional wetland and Waters of the U.S. delineation along the proposed realignment of State Route 79 between Domenigoni Parkway to Gilman Springs Road, on over 16 air miles within the San Jacinto Valley, on 5,466 acres. This survey were conducted in difficult arid region environments that included sodic and saline soils that prohibit standard field indicators of hydric soils, redoximorphic features (mottles) commonly found in more acidic soils.

Department of Energy; Western Area Power Administration (WAPA); Sierra Nevada Customer Service Region, CA. Team leader for wildlife and botany biologist conducting comprehensive surveys for threatened and endangered wildlife, plants, wetlands and Waters of the U.S., and habit typing on over 900 miles of existing transmission lines right-of-way and over 400 miles of approved access roads currently in use that provide power to Northern California. Surveys were conducted using GeoXT GPS units' aerial photos to provide sub-meter accuracy later to be integrated into WAPA's GIS system to be proactive in environmental issues relating to transmission line maintenance work. Included in responsibilities was instruction and accuracy in utilizing the GPS units to field team members.

Roseville Electric; Reason Farms North Parcel; Placer County, CA. Conducted USACE approved jurisdictional wetland and Waters of the U.S delineation on a 116-acre vernal pool grassland and a 112-acre rice field formerly farmed on this parcel. The verified delineation was used for compensatory habitat mitigation required to compensate the unavoidable impacts to wetlands impacted during construction of the Roseville Energy Park. Mr. Leighton assisted in jurisdictional wetland report preparation and submittal. Wetland and waters were mapped using Corps approved methods on aerial photographs and with a Trimble® GeoXT GPS unit capable of submeter accuracy for recording special data in an electronic version. This data was integrated into GIS information for use in overlaying electronic data onto aerial maps for the jurisdictional report submittal.

United States Marine Corps Base; Camp Pendelton; San Diego County, CA. Conducted the wetland and Waters of the U.S. delineation on over 16 miles of stream corridors, on one of four watersheds existing on the USMC Base. These surveys were conducted using approved methodology by the Army Corp of Engineers, and Wetland Delineation Manual. Instructed and responsible for use of GeoXT GPS units capable of submeter accuracy for recording various stream morphology data and stream channel locations along the 16 miles of waters and

wetlands found within the study area. Prepared an Army Corps of Engineers-approved Wetland Delineation Report from field work conducted; which was approved by Base biologist and adopted as part of the Base's Integrated Natural Resource Management Plan requirements.

Pacific Gas and Electric; Geothermal, Inc. Facility Closure Project; Middletown, CA. Conducted pre-construction survey, nesting bird surveys, photographic documentation, daily logs, reports, agency interaction and monitored construction activities for CEQA/NEPA compliance for 12 months as part of a three year site closure procedures. Responsible for cultural monitors, and Native American monitors, permit requirements, removal of wetland donor soil, installation of wetland mitigation enhancement/creation, and native seed collection and planting of created pools and swales per permits. Coordinated with USFWS, and CDFG for the removal/relocation of several nesting birds within the project closure area during the breeding season. Mr Leighton prepared methodology procedures for relocation of nesting avian species that were approved by the State and Federal Agencies. These removal/relocations were allowed, do to well document data of species when eggs were laid, duration of incubation and high potential for addled eggs.

California Energy Center; Obsidian Energy Center LLC; Salton Sea Geothermal Plant Unit 6; Imperial County, CA. Conducted protocol surveys for burrowing owls at the proposed power plant site, associated linears and well pads. Prepared survey report, including GPS documentation, photographic documentation for the California Energy Commission (CEC), California Department of Fish and Game (CDFG), and U.S. Fish and Wildlife Service (USFWS) as part of the Conditions of Certification (COC). Including interactions with the CEC, and CDFG, unoccupied burrows were examined with a burrow scope and closed if burrows were unoccupied.

East Bay Municipal Utilities District; Mokelumne Aqueduct Maintenance and Seismic Upgrade; San Joaquin, CA. Conducted burrowing owls and Swainson's hawk surveys along Jones Tract, Lower Roberts Tract. Prepared weekly reports and interactions with EBMUD's biologist. Burrowing owl surveys were conducted during the early part of the breeding season and into the breeding season while upgrades were being performed.

Sacramento Municipal Utilities District; Consumnes Power Plant; Sacramento County, CA. Conducted protocol burrowing owl surveys, presence/absence Swainson's hawk surveys, raptor and song bird surveys along 26 miles of proposed pipeline alignment including the 30-acre power plant site. Prepared survey report, including GPS documentation, photographic documentation for the California Energy Commission (CEC), California Department of Fish and Game (CDFG), and

U.S. Fish and Wildlife Service (USFWS) as part of the Conditions of Certification (COC).

Sacramento Regional County Sanitation District; Arden Force Main; Sacramento County, CA. Conducted elderberry surveys and reports of survey results along the American River pipeline alignment. This survey work included stem counts, presence/absence of exit holes, GPS documentation, using the USFWS' *Conservation Guidelines for Valley Elderberry Longhorn Beetle*.

Federal Highways; Blue Lakes Road; Alpine County, CA. Conducted Denning mammal surveys along 11.6 miles of Blue Lakes Road for Pacific Fisher, Sierra Nevada red fox, and American marten. Potential Pacific fisher, American marten, and Sierra Nevada red fox sign, (tracks, scat, burrows, etc.) were investigated and photographed, and details of the mammals' presence were recorded and compared to published data.

Kinder Morgan Energy Partners; Northern California System. On-call permitting coordinator (PC) for their Northern California Petroleum pipeline system. Conducted field surveys and monitoring, development of field reports and permit applications as well as negotiations with agencies to obtain all required approvals.

Federal Highways; Hyampom Road; Hayfork, CA. Conducted protocol-level surveys for Northern spotted owls along several miles of proposed road improvements for Hyampom Road in Hayfork California (from 2002 to 2006). Conducted surveys for several species of amphibian endemic to the region.

Calpine Corporation; Delta Energy Center; Contra Costa County. Biological monitor of 880-megawatt power plant. Conducted all forms of biological monitoring and surveys on power plant and associated linear facilities and HDD. Including ongoing annual avian collision studies, scavenger removal study along transmission lines associated with the power plant as part of their COC.

Calpine Corporation; Sutter Energy Center; Sutter County. Biological monitor of 500-megawatt power plant. Conducted all forms of biological monitoring and surveys on power plant and associated linear facilities and HDD. Including ongoing annual avian collision studies, scavenger removal study along transmission lines associated with the power plant as part of their COC.

Calpine Natural Gas; Sevenmile Slough HDD; Twitchell Island; Sacramento County. Full-time Biological Monitor on site during all construction and drilling operations. Throughout construction activities, I shared knowledge, and answered questions with the various agency personnel that were on site to observe directional drilling operations, procedures, equipment, and steps that would be taken in the event of a "frac-out."

Kinder Morgan Energy Partners; Concord to Sacramento, CA. Implemented a worker environmental awareness program. Conducted pre-construction surveys biological monitoring and photo-documentation, focused on ensuring contractor compliance with Endangered Species Act, and Clean Water Act on various repair sites from Concord to Sacramento.

Caltrans; Levee improvements; Sacramento County. Conducted protocol surveys for giant garter snake, burrowing owl and Valley elderberry longhorn beetle along several miles of levees from Interstate 5 to the Natomas Cross Canal. Monitored drill rigs for presence of giant garter snakes during all phases of work per California Department of Fish and Game regulations.

Pacific Gas and Electric Company; Line 401 Capacity Loops project; Burney and Modoc, CA. Focused biological surveys for rare plants, wetlands, special-status wildlife species, and noxious weeds along the two loops of the 401 Expansion Project. Conducted electronic database searches for existing literature, and consulted with resource agencies and/or other experts to develop a target list of potentially occurring special-status wildlife species. Part of a four person team which surveyed the study area using accepted protocols, and identified locations of special-status plants and wildlife species, including amphibians and reptiles. Assisted in producing a biological resource report.

Williams Communications Fiber Optic Installation; Nevada to Sacramento. Environmental compliance monitor from Nevada to Sacramento. Monitored fiber optic cable installation with regards to State, California Environmental (CEQA) and local permit compliance. Ensured sensitive species and associated habitat protection, including erosion control activities and Best Management Practices (BMPs). Monitored numerous horizontal direction drills (HDD). Worked with State agencies, California Public Utilities Commission (CPUC), Department of Fish and Game (DFG) and Union Pacific Railroad. Maintained comprehensive Field notes, documented daily activities, (NCRs) Non Compliance Reports, Non Compliance Report Resolutions (NCRRs), Variance requests and photo records.

San Joaquin County Department of Public Works Roads and Bridges. Field biologist for San Joaquin County's road maintenance projects and seismic retrofit projects. Duties include conducting biological assessments of each site, preparing Natural Environmental Studies (NES) for federally funded sites and conducting database searches, evaluating biological resource impacts and ensuring compliance with the Endangered Species Act and Clean Water Act on rapid turn-around public works projects. Conducted nesting raptor searches and protocol surveys for Swainson's hawk and burrowing owl.

Turlock Irrigation District City of Patterson Transmission Line Project EIR. Conducted biological studies for a 250-mile proposed transmission line in Stanislaus

County. Mapped potential fairy shrimp habitat, Swainson's hawk nesting locations, and site reconnaissance of potential substation and river crossing locations.

Airport Gateway Dollar Tree Distribution Site. Conducted intensive construction monitoring of an active Swainson's hawk nest for 6 weeks during earth moving and compaction associated with construction. Documented hawk activity and recorded construction activities. Upon completion, assisted in the preparation of a comprehensive monitoring report that was submitted to CDFG. Assisted in agency-mandated worker Environmental Awareness Training sessions to construction crews.

County of Sacramento Regional Wastewater Treatment Plant. Established restoration of native ecosystems to 2,500 acres, including; riparian, native bunch grasses and wetland ecosystems. Conducted trapping, measuring and tagging on California golden beaver for population densities and age structure analysis. Conducted trapping and den census for population concentration on muskrat. Preformed waterfowl counts during the migratory season. Built mitigation mounds for burrowing owls, and monitored structures for occupancy and brood success. Conducted water quality analysis for pilot study on the alternative treatment of tertiary treated water in a constructed wetland facility.

Deganiawidah Quetzalcoatl University Riparian Restoration Project. Developed and implemented restoration plan for one half mile of realigned stream. Interacted with U.S. Fish and Wildlife Service and Yolo Regional Conservation District agencies in the cost share partnership of habitat improvements. Stream channel was restored to its historic condition through the use of earth-moving equipment to terrace the deeply incised channel. Stream banks were planted with native perennial grasses, native trees and shrubs were added to create the historic upper and lower riparian canopy with a diverse flora base.

Silva Ranch Vernal Pool Monitoring. Conducted quantitative analysis of vernal pool vegetation within created and pre-existing vernal pools, to comply with 5-year monitoring protocol.

Weston Ranch / Suncal Housing Development NES. Conducted biological studies for 150 acres within the project site. Conducted Burrowing Owl Consortium protocol nesting surveys to determine burrowing owl population within the project site. Evaluated biological resource impacts. Supervised construction crews within or in close proximity to habitats of sensitive species.

Forest Stand Exams; USDA Forest service, Deschutes National Forest; OR. Field crew leader for conducting intensive forest stand exams on 55,000 acres of the Deschutes National Forest. Responsible for data management and Quality control of over 12,000 individual sample points, including forest measurements, forest disease evaluation, habitat evaluation, and sensitive plant and wildlife surveys. Assisted in

coordination and organization of crewmembers, including subcontractors, for field data collection.

Ringtail Population Monitoring Project. Student research assistant for ringtail populations studies in Brockman Canyon, South Sutter Buttes, CA. Assisted with trapping, measuring and tagging ringtails.

County of Sacramento Regional Wastewater Treatment Plant. Field assistant for full protocol giant garter snake surveys of Laguna Creek for pipeline construction.

Specialized Training

OSHA-SARA 40-hour Health and Safety Course
OSHA 8-hour Supervisor Training
OSHA 10-hour Construction Supervisor Training
CPR Certification, American Red Cross
Standard First Aid Certification, American Red Cross
Wetland Training Institute, Wetland Certification Program
Hydric Soils Course and Specialized Field Training in Saline and Sodic Soils
Certificate Training Trimble® GPS and GIS TerraSync® Software
CNPS Plant Science Training Program- Vernal Pool Plant Taxonomy, attended April 2007
Rare Pond Species Survey and Techniques Training – California Tiger Salamander, California Red-legged Frog, and Western Pond Turtle

References

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Daniel Williams

Staff Biologist

Education

B.S., Geography (Environmental Studies Minor), 2004

Distinguishing Qualifications

Experience conducting surveys for burrowing owls, Swainson's hawk and other raptors, riparian avian point counts, and general wildlife

Performs biological monitoring within project sites and construction zones

Relevant Experience

Mr. Williams is a staff biologist with 5 years of professional experience and more than 10 years of general field experience in avian ecology. He conducts general wildlife surveys in a wide variety of habitats throughout North America. He is experienced in using Global Positioning System technology for various mapping projects.

Representative Projects

Project Biologist; Construction Monitoring and Pre-disturbance Surveys for Special Status Species; Seismic Retrofit of Antioch Bridge, San Joaquin River, California; 7/2010 to 12/2010. Monitored construction activities to ensure permit compliance and avoidance of known bird nests on Antioch Bridge and Sherman Island. Delivered WEAT training to incoming construction workers to inform them of the potential presence of the state federal threatened giant garter snake on the island.

Project Biologist; Mapping and Cataloging of Special Status Plant Species; Confidential Project; San Bernardino County, California; 5/2010 to 6/2010. Located and marked previously found special status plant species and set up a seed collection system for species protection ahead of construction on a project site in the Mojave Desert.

Project Biologist; Pre-disturbance Surveys for Special Status Species; Confidential Project; Southwestern Utah; 5/2010. Performed pre-construction sweep surveys for Utah prairie dog in the Sevier Desert following protocol training by the BLM.

Project Biologist; Pre-disturbance Surveys for Special Status Species; Confidential Project; Kern County, California; 3/2010 to present. Performed pre-construction sweep surveys for several special status species including loggerhead shrike, American badger, and ringtail, as well as for nesting birds under the Migratory Bird Treaty Act.

Biological Monitor; Worker Environmental Awareness (WEAP) Training and Special Status Species Monitoring; PG&E; Bay Point, California; 2/2010 to 3/2010. Delivered

Worker Environmental Awareness (WEAP) training to contractors prior to soil boring, weed abatement, bathymetry and aquatic soil sampling at a remediation site. Also conducted pre-disturbance biological investigations on the site, as well as surveys for California black and clapper rails.

Project Biologist; Pre-disturbance Surveys for Special Status Species; Union Pacific Railroad; Riverside and Imperial Counties, California; 2/2010. Performed pre-disturbance surveys for California black and Yuma clapper rails, as well as seine net surveys for desert pupfish in a wash under a railroad bridge in Imperial County ahead of the removal of flash flood deposited sediment from the base of the bridge. Also surveyed for least Bell's vireo, and Stephens' kangaroo-rat at another railroad bridge in need of maintenance in Riverside County.

Biological Monitor; Worker Environmental Awareness (WEAP) Training; Dow Chemical; Pittsburg, California; 6/2009 to 9/2009. Delivered Worker Environmental Awareness (WEAP) training to contractors before they started ground disturbance work on a transmission line project, and conducted pre-disturbance biological investigations on the project site.

Project Biologist; Confidential Project; Owl Surveys; Niland, California; 7/2009 to 8/2009. Performed western burrowing owl surveys according to 1993 California Burrowing Owl Consortium survey protocol on two proposed geothermal sites near the Salton Sea.

Project Biologist; Bridge Replacement; Union Pacific Railroad; Cottonwood, California; 7/2009 to 9/2008. Performed preconstruction surveys for western pond turtle, white-tailed kite, and silky cryptantha. Monitored bridge construction crews during construction of a new concrete bridge as well as demolition of the old structure. Maintained compliance with measures set forth in the California Department of Fish and Game's Streambed Alteration Agreement, U.S. Army Corps of Engineers Nationwide Permit 14 conditions, and the Regional Water Quality Control Board's Water Quality Certification conditions.

Project Biologist; Potential Solar Site Studies; Bright Source; San Bernardino County; California; 3/2009 to 4/2009. Helped develop an avian point count transect protocol with Bureau of Land Management (BLM) biologists, then implemented said protocol at a proposed solar site in southern California.

Project Biologist; Lodi Energy Center; Northern California Power Agency; San Joaquin County, California; 2/2009 to 7/2009, and again 3/2010 to present. Performed pre-construction biological surveys on a proposed pipeline route which included mapping and monitoring nests of the California Threatened Swainson's hawk, and checking irrigation canals for the Federal Threatened giant garter snake.

Project Biologist; Plant 42; U.S. Air Force; Palmdale, California; 11/2008. Performed burrowing owl clearance surveys prior to disturbance of concrete rubble piles near military flight line.

Project Biologist; Bird Surveys; City of Las Vegas; Las Vegas, Nevada; 5/2008 and 5/2009. Performed two annual surveys for nesting birds along an urban creek corridor, marked creek with flagging, and drafted a report describing locations of bird nests prior to yearly mowing of the vegetation along creek.

Project Biologist; Line 406/Line 407 Pipeline Project; Pacific Gas and Electric; Sacramento, California; 4/2008 to 5/2008 and 4/2009 to 5/2009. Conducted Swainson's hawk nesting survey according to California Department of Fish and Game guidelines. Suitable nest trees located within 0.5 miles of the approximately 44-mile pipeline route were surveyed for Swainson's hawk or other raptor use.

Project Biologist; Kinder Morgan Energy Partners; Rocklin, California; 6/2008. Conducted preconstruction surveys prior to pipeline maintenance work. Surveys included identification of nesting birds and other sensitive wildlife species. Performed biological monitoring during vegetation removal to minimize disturbances to riparian vegetation and waterways.

Project Biologist; Annual Compliance Monitoring; Cosumnes Power Plant; Sacramento, California; 4/2008. Performed annual survey of plant laydown, water pipeline, and concrete batch plant construction areas to determine success of re-vegetation efforts after construction.

Project Biologist; Wind Corridor Studies; First Wind; Milford, Utah; 4/2008. Performed burrowing owl transect surveys of an 18,000-acre project site for a wind farm and utility corridor. Duties included mapping mammal burrows and documenting burrowing owl and kit fox observations, as well as identifying general wildlife resources.

Project Biologist; Camp Parks RFTA Biological Compliance—Oakland RPX, OMS and AMSA Construction; U.S. Army Corps of Engineers; Dublin, California; 3/2008 to 4/2008. Performed burrowing owl clearance surveys and conducted biological monitoring of burrowing owl populations within construction zones.

Experience Prior to CH2M HILL

Burrowing Owl Survey Crew Leader; Western Riverside County Multiple Species Habitat Conservation Plan; 3/2006 to 2/2008. Responsible for organizing and supervising a burrowing owl survey crew and a colony census crew. Conducted riparian avian point counts, coastal sage avian transects, and burrowing owl colony census in accordance with regulatory agency protocols. Also conducted Delhi Sands Flower-loving Fly surveys, baiting of small mammal traps for Stephens' Kangaroo-Rat grids, and vegetation surveys associated with all avian protocols. Completed data entry in Access and Excel formats and drafted seasonal reports of survey and census results.

Avian Biologist; North Carolina Wildlife Resources Commission; 1/2005 to 9/2005. Conducted state-wide winter bird transect surveys, vegetation surveys, Bald Eagle nest monitoring, avian point counts, and songbird nest searches. Established frog and bobwhite call routes.

Avian Field Technician; Iowa State University; 5/2002 to 8/2002. In support of a graduate research investigation, performed avian point counts and nest search protocol and assisted with mist netting and territory mapping of Bobolinks for a student in northern Iowa and southern Minnesota. Also conducted vegetation surveys and completed data entry of survey results.

Park Naturalist; Sandy Hook Bird Observatory; New Jersey Audubon; 3/2002 to 5/2002. At Sandy Hook Bird Observatory, served as park naturalist and conducted a spring migration census.

Avian Field Technician; University of Wisconsin; 5/2001 to 8/2001. Performed avian point count and nest search protocol, assisted with mist netting Grasshopper Sparrows and conducted vegetation surveys and data entry duties as part of a graduate research investigation conducted at Fort McCoy Military Reservation in western Wisconsin.

Biological Field Technician; Iowa State University; 5/2000 to 8/2000. Conducted avian point count protocol and butterfly surveys as part of a graduate research investigation conducted in the Grand Teton/Yellowstone Park region.

Specialized Training

OSHA-SARA 40-hour Health and Safety Course
OSHA 10-hour Construction Safety
CPR Certification, American Red Cross
Standard First Aid Certification, American Red Cross

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Thomas C. Davis

Project Scientist

Education

B.A., Environmental Studies and Economics, University of California at Santa Cruz, 2003

Relevant Experience

Mr. Davis is a biologist with seven years of environmental consulting and biology experience. He has monitored for biological and environmental compliance on a variety of projects including utility installation projects and transportation projects. He has worked for clients such as the San Francisco Public Utilities Commission, Pacific Gas and Electric Company, California Department of Transportation, United States Navy, and United States Army. Mr. Davis has conducted biological surveys for special status species including nesting avian species. Mr. Davis has maintained storm water pollution prevention plans, written biological sections of reports for government agencies, and has conducted environmental trainings for construction personnel. He has coordinated teams of specialists to perform biological and cultural surveys and monitoring.

Representative Projects

Tesla Power Plant Project; 2008. Surveyed and monitored for burrowing owl during geotechnical investigations before construction of the power plant.

Newark-Fremont PG&E Reconductoring Project; 2008. Conducted pre-construction burrowing owl surveys and prepared a memo report of survey findings. Monitored construction activities, communicated directly with PG&E, conducted environmental tailboard trainings for construction crews, prepared daily compliance reports, oversaw that all in-field Special Use Permit requirements were being implemented, and conducted pre-construction nesting bird surveys.

PG&E Vaca-Dixon-Peabody-Lambie-Birds Landing 230kV Reconductoring Project; 2009. Conducted reconnaissance level field surveys at project impact areas for special-status wildlife species such as Swainson's hawk, burrowing owl, western pond turtle, giant garter snake, horned lark, California tiger salamander and golden eagle. Mapped all potential habitats for special-status species using ArcPad program on a GPS tablet.

Caltrans State Route 12 Roadway Rehabilitation and Safety Improvement Project burrowing owl Surveys, Solano County, CA; 2009. Conducted Phase I and II protocol level burrowing owl surveys for western burrowing owl within the proposed construction impact areas. Recorded suitable burrowing owl habitat, locations of burrows, presence of sign and individual burrowing owls with a GEO XT Trimble unit.

PG&E Gas Line 210 Project; 2009. Conducted wildlife habitat assessment surveys in Solano County, and wrote wildlife technical report. Habitat assessment included suitability for California tiger salamander, vernal pool branchiopods, and burrowing owl. Assisted in conducting wetlands delineations. Prepared SAA 1600 permit application.

Bay Area Toll Authority, Antioch Bridge Seismic Retrofit Project; 2010 to present: Monitoring construction for compliance with federal and state agency permit conditions for giant garter snake (*Thamnophis gigas*), nesting avian species, and water quality. Provide environmental compliance training to construction personnel.

San Francisco Public Utilities Commission Water System Improvement Program; 2010 to present: Environmental Inspector and Specialty Environmental Monitor for Bay Division Pipeline 5, Alameda Siphon, and New Irvington Tunnel Projects. Inspect construction sites for compliance with CEQA mitigation measures, federal, state, and regional permits, and contract specifications. Perform preconstruction surveys for special status species including nesting birds. On Bay Division Pipeline Project: Prepared minor project deviations, monthly reports, and reviewed contractor submittals. Coordinated a team of specialists including cultural and biological monitors. Provided environmental compliance training to project personnel. Approved by CDFG and USFWS for the implementation of mitigation measures pertaining to California tiger salamander, Mission blue butterfly, California red-legged frog, San Francisco garter snake, Alameda whipsnake, and San Francisco dusky-footed woodrat.

Caltrans Highway 101 Widening; 2009 to 2010: Coordinated team of field biologists and monitors during construction. Monitored for California tiger salamander, storm water protection, environmental compliance, and nesting birds for highway expansion projects in Santa Rosa and Rohnert Park, CA. Provided environmental compliance training to project personnel. Received conditional approval to survey, handle and release California tiger salamander.

Desert Tortoise and Rare Plant Surveys, Mojave Desert, Twenty-Nine Palms, CA; 2009. Conducted protocol level desert tortoise and rare plant surveys in creosote scrub habitat in Mojave Desert. Responsible for identifying over 100 species of plants, tracking wildlife sightings, and navigating with Trimble Geo XT handheld GPS units.

PG&E Maxwell 1101 12kV Reconductoring Project; 2008. Monitored for the giant garter snake on an 11 mile long corridor during work on a PG&E reconductoring project near Maxwell, CA. Monitored and maintained lines of communication with work crews and ensured that the client was in compliance with all environmental laws and regulations. Conducted Worker's Environmental Awareness Program trainings and on-site tailboards for all project personnel. Monitoring logs were completed daily for PG&E documenting construction activities, communication, and compliance issues.

Lakeville-Sonoma PG&E 115kV Transmission Line Project; 2006 to 2007. Performed onsite environmental inspection and biological monitoring. Monitored for western pond turtle and California red-legged frog during the installation of PG&E Lakeville-Sonoma 115kV transmission line project, and ensured that biological surveys were completed prior to construction work. Supervised field monitors and ensured that client was in compliance with CPUC mitigation measures, 1600 SAA, and USFW Biological Opinion. Compiled daily and weekly reports for CPUC, and provided timely biological and compliance information for U.S. Fish and Wildlife, Sonoma County Water Agency, Sonoma County Open Space District, and the City of Sonoma. Conducted Worker's Environmental Awareness Program trainings and on-site tailboards for all project personnel, and collaborated with all PG&E construction managers, supervisors, and subcontractors involved on the project to ensure compliance with mitigation measures. Maintained the Storm Water Pollution Prevention Plan (SWPPP), inspected erosion and sediment control measures, and monitored storm water quality. Directed subcontractors, per the client's request, for the installation of erosion and sediment control measures. Recognized the need for specific CPUC variances on the project, and facilitated communication between PG&E crews and Environmental Program Manager on the status of variance requests. Collected samples of water and soil for lab analysis, and coordinated with PG&E specialists and field crews in their proper disposal.

PG&E Central California Clean Energy Transmission Project; 2008. Conducted wildlife habitat assessment surveys throughout Kern and Tulare Counties. Assisted with site and habitat assessment for special status species such as blunt-nosed leopard lizard, Tipton kangaroo rat, San Joaquin kit fox, American badger and western pond turtle. Performed protocol-level surveys for blunt-nosed leopard lizard.

Jefferson-Martin PG&E 230 kV Transmission Line Project; 2005 to 2006. Monitored San Francisco garter snake and California red-legged frog during the installation of PG&E Jefferson-Martin 230 kV transmission line project. Monitored construction activities for overhead and underground transmission line installation, vegetation clearing, revegetation and erosion and sediment control activities, and the Jefferson substation upgrade from 115kV to 230kV. Conducted avian species nest searches and monitored active nests for impact by construction activities.

San Clemente Island Fox Research Project; 2007 to 2008. Conducted field research on San Clemente Island foxes for the United States Navy. Installed and maintained trapping grids, handled foxes and recorded data, marked foxes with PIT tags, and assisted with collecting blood samples.

PG&E Natural Gas Line 303 Project; 2006. Monitored for California red-legged frog and California tiger salamander during work on PG&E natural gas pipeline project, and made recommendations for best management practices to minimize impact on these species.

Lakeville-Sonoma PG&E 115kV Transmission Line Project Nesting Bird Surveys; 2006 to 2008. Conducted avian species nest surveys along the PG&E right-of-way. Performed detailed behavioral observations of nesting avian species. Established species appropriate nest protection buffer zones. Documented the location, the status of nest and the species of bird. Supervised a crew of 3 ornithologists, maintained and managed data gathered by ornithologists and ensured that nesting bird surveys were completed prior to construction work. Monitored construction work to ensure that PG&E maintained compliance with CPUC mitigation measures.

California Department of Transportation Pigeon Pass Project; 2006 to 2007. Conducted nesting bird surveys along the Caltrans right-of-way. Performed detailed behavioral observations of nesting songbirds and raptors; documented the location, the status of nest and the species of bird. Removed inactive nests from project site and performed nest clearance surveys prior to construction. Established species-appropriate nest protection buffer zones around active nests.

California Department of Transportation Devils Slide Tunnel Project; 2007 to 2009. Conducted avian species nest searches and monitored active nest colonies for impact by construction activities. Monitored peregrine falcon breeding behavior and reproductive success. Monitored for California red-legged frog.

Caltrans Geyserville Bridge State Route 128 Replacement Project; 2006. Monitored for special-status salmonids (*Oncorhynchus mykiss, kisutch,tshawytscha*), foothill yellow-legged frog (*Rana boylii*), and northern red-legged frog (*Rana aurora aurora*) during Caltrans' Highway 128 Geyserville Bridge Replacement Project for compliance with California Department of Fish and Game Biological Assessment and 1600 SAA.

Specialized Training

Elkhorn Slough Coastal Training Program workshop on upland survey methods for California tiger salamander, June 2010. Conducted drift net surveys and handled dispersing juvenile CTS.
Elkhorn Slough Coastal Training Program workshop on Santa Cruz long-toed salamander aquatic survey methods, May 2010. Conducted aquatic surveys and handled SCLTS larvae.
10-hour OSHA Construction Safety Training.
24-hour Storm Water Pollution Prevention Plan training (Certificate number 070926-02).
Red Cross First Aid/CPR training, March 2011.

Volunteer Experience

Don Edwards National Wildlife Refuge; 2010. Assisted Service biologists in surveying for vernal pool branchiopods and amphibians in the Warm Springs section of the refuge in Newark, CA. Handled larval California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp.

References

Lynne Hosley
Project Manager, CH2M HILL
(510) 587-7603

Colleen Taylor
Project Manager, CH2M HILL
(510) 587-7644

David Lundgren
Project Manager, CH2M HILL
(510) 587-7663

Daniel Weinberg

Project Biologist

Education

B.A., Biological Field Science, University of California at Berkeley, 1990

Professional Registrations

USFWS 10(a)(1)(A) Scientific Recovery Permit for California Tiger Salamander and native endangered and threatened vernal pool branchiopods, TE081298-1

CDFG California Scientific Collecting Permit, 007972

Distinguishing Qualifications

19 years of experience in wildlife species surveys and habitat assessments

Produces biological assessment and natural environment study documents

Prepares federal and state permit applications to perform project work in sensitive habitats

Provides worker environmental awareness trainings

Monitors project construction actions for environmental compliance

Relevant Experience

Mr. Weinberg's background includes visual and auditory identification techniques, scientific survey protocol methods, and an understanding of optimal conditions to conduct field studies for wildlife and plant species in upland and wetland habitats throughout California. He also provides support for permitting projects within biologically sensitive habitats. Prior to assuming consulting responsibilities with private firms, Mr. Weinberg served as the acting district biologist for a 250,000-acre Bureau of Land Management field office in Redding, California. His other federal experience includes employment with the United States Fish and Wildlife Service, the United States Forest Service, and the Pacific Southwest Forest and Range Experiment Station.

Representative Projects

Environmental Inspection/Biological Monitoring; San Francisco Public Utilities Commission Watershed Improvement Program; Sunol, California; 2009 to 2011. Inspected construction work areas and machinery for compliance with environmental permit conditions. Provided worker awareness trainings. Conducted preconstruction surveys for sensitive species. Approved by the U.S. Fish and Wildlife Service to handle and relocate federally listed species. Served as the project designated biologist as

provided by the California Department of Fish and Game to handle and relocate State listed species.

Environmental Compliance Monitoring; Line 131 Natural Gas Pipeline Replacement; Pacific Gas and Electric Co.; Brentwood, California; 2008 to 2010. Functioned as the US Fish and Wildlife-approved qualified biologist. per conditions specified in the project biological opinion. Conducted surveys for listed species including San Joaquin kit fox (*Vulpes macrotis mutica*), California red-legged frog (*Rana aurora draytonii*), California Tiger Salamander (*Ambystoma californiense*) and the western burrowing owl (Athene cunicularia). Provided worker environmental awareness training and performed biological monitoring during active construction work.

Listed Vernal Pool Branchiopod Survey; PG&E; Vaca-Dixon Reconductoring Project; Solano Co., California; 2008. Located and identified occurrences of federally listed vernal pool branchiopods including *Lepidurus packardi* and *Branchinecta lynchi* in accordance with the U.S. Fish and Wildlife Service *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. Collected and processed voucher specimens in accordance with special conditions provided in scientific collection permit TE081298-1.

San Joaquin Kit Fox Den Survey; Caltrans; Pigeon Pass Realignment Project; Pleasanton, California; 2007. Approved by the U.S. Fish and Wildlife Service to conduct preconstruction den surveys for the Federally Endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (SJKF). Survey was performed in accordance with the U.S. Fish and Wildlife Service *San Joaquin Kit Fox Survey Protocol for the Northern Range*.

California Tiger Salamander Larval Survey; U.S. Fish and Wildlife Service; Stanislaus County, California; 2006. Performed surveys for larval-stage California tiger salamander (*Ambystoma californiense*). Used dip and seine nets to potentially locate tiger salamander larvae prior to de-watering of creek impoundments. Survey was performed in accordance with the U.S. Fish and Wildlife Service *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander*.

California Red-legged Frog Survey; California Polytechnic University; Building Expansion Project; San Luis Obispo, California; 2006. Performed a protocol survey for the California red-legged frog (*Rana aurora draytonii*) in riparian habitats on Cal Poly property in accordance with the *U.S. Fish and Wildlife Service Revised Guidance and Field Surveys for the California Red-legged Frog*.

Environmental Compliance Monitoring; US Army Corps of Engineers; Hamilton Army Airfield Coastal Salt Marsh Remediation Project; Novato, California; 2005. Provided daily environmental compliance monitoring and worker awareness training for the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and California clapper rail during the pickleweed (*Salicornia virginica*) removal phase of the

project. Coordinated with the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers to remove the mouse from the work site. Successfully recovered and relocated 32 harvest mice to adjacent pickleweed habitat.

California Aqueduct Site Assessment/Species Inventory; Colorado Desert, CA, Metropolitan Water District of Southern California (MWD); 2004: Performed site assessments, habitat characterizations and species inventories of various 200-acre study plots throughout the Colorado Desert in preparation for an MWD Habitat Conservation Plan. Observed listed, rare and sensitive desert species including desert tortoise (*Gopherus agassizii)* and foxtail cactus (*Escobaria vivipara).*

Valley Elderberry Longhorn Beetle Exit Hole Survey; U.S. Bureau of Land Management; Sacramento River, Redding, California; 2002. Performed surveys of elderberry shrubs (*Sambucus* sp.) for exit holes of the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) in accordance with the U.S. Fish and Wildlife Service *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*. Surveys were conducted on federal property in preparation of a BLM-approved, Shasta County vector abatement treatment program.

Honors and Awards

2005 Outstanding Achievement Award for Client Satisfaction, URS Corporation, Oakland, California

1993 Wildland Fire Incident Safety Award, U.S. Forest Service, Sierraville Ranger District, Tahoe National Forest, California

Specialized Computer Skills

Rarefind California Natural Diversity Database version 3.1.1.0

Professional Development

2006 Determining Federal Wetlands Jurisdiction
2006 California Tiger Salamander Larval Stage Survey Techniques
2004 (renewed 2005/2006/2007)/California OSHA 40-hour HAZWOPER
2003 U.S. Fish and Wildlife Service, native endangered and threatened species certification for vernal pool branchiopods
2002 U.S. Department of the Interior Office of Aircraft Services, Airplane/Helicopter Safety
2002 American Safety & Health Institute, Adult First Aid & CPR
2001 U.S. Bureau of Land Management, ATV Safety
1997 U.S. Forest Service Regions 5 & 6 salamander identification
1996 (renewed 2004) Mad River Biologists, Inc. marbled murrelet survey certification

1994 (renewed 2002) U.S. Forest Service, wildland incident firefighter qualification for arduous physical work

Publications

Weinberg, Daniel. 2005. *Atlas of the Breeding Birds of Humboldt County, California*. Contributing biologist. John E. Hunter, ed. Arcata: USFWS. Prepared for the Redwood Region Audubon Society.

Weinberg, Daniel. 2001. *Carnivore Survey Findings on the Interlakes Special Recreation Management Area.* July. Prepared for the U.S. Dept. of Interior Bureau of Land Management.

References

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CCGS LLC
PO Box 1690
Danville, CA 94526

March 24, 2011

Mr. Craig Hoffman, CPM
(09-AFC-4C)
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

SUBJECT: Oakley Generating Station (09-AFC-4C)
BIO-10 Proposed Bat Biologist

Dear Mr. Hoffman:

Please find attached the resume for Heather Johnson, who is our proposed Bat Biologist for the Oakley Generating Station (OGS). The attached resume has been submitted for Staff review, in accordance with Condition of Certification BIO-10. Ms. Johnson is available to conduct on-site bat surveys in accordance with the impact avoidance and minimization measure for bats.

Contra Costa Generating Station LLC (CCGS LLC) acknowledges that OGS has not yet been certified by the California Energy Commission (CEC). Submittal of this compliance information is at CCGS LLC's risk and in no way implies or predisposes project certification by the CEC.

If you have any questions regarding this submittal, please do not hesitate to contact me at (916) 799-9463 or Doug Davy at (916) 286-0278.

Sincerely,

Greg Lamberg
CCGS LLC
Senior Vice President

Attachment: Resume for the Proposed Bat Biologist

cc: Jim McLucas, CCGS LLC
Doug Davy, CH2M HILL
Rick Crowe, CH2M HILL

Heather L. Johnson, Wildlife Biologist/Bat Specialist
(916) 206-3569 heatherj@calweb.com

Education

M.S., Biological Conservation, California State University, Sacramento, 2000

Thesis: "Roosting and Foraging Ecology of Bats in the Sutter Buttes, Sutter County, California"

B.S., Biological Sciences, California State University, Sacramento, 1992

Permits

Scientific Collecting Permit for Bats, Mammals, Reptiles, and Amphibians, Calif. Dept. Fish and Game

Experience with Specific Survey Methodology

Habitat Assessment and Natural History

- Author of bat species accounts for the Yolo County NCCP/HCP. 2007-2009.
- Author of Central Valley ecoregion, rangeland management, and regional conservation planning chapters of the draft California Bat Conservation Plan, California Dept. of Fish and Game.
- As a member of the Western and California Bat Working Groups, participate in workshops and conference calls with bat biologists from 11 western states and 4 Canadian provinces to discuss species status, management issues and conservation concerns, impact assessment and recovery plans.
- Conducted species inventory and roost searches for Calaveras Reservoir and Alameda Creek Diversion Dam, Dublin, CA. 2008.
- Assessed bat occupancy of mines for Carson Hill Mining Company, Angels Camp, CA. 2007.
- Assessed bat habitat and conducted acoustic and capture surveys for Gold Rush development project, Sutter Creek, CA. 2006.
- Surveyed for bat habitat in bridge features along Lakeville-Sonoma transmission line project, PG&E, Sonoma, CA. 2005.
- Author of bat species accounts and conservation strategies for the South Sacramento Habitat Conservation Plan. 2004.
- Assessed bat habitat potential of marked trees to be removed for proposed transmission line corridor, PG&E, Paradise, CA. Marked suitable habitat trees, recommended bat protection protocol during tree removal, and recommended mitigation for loss of habitat.
- Assessed bat habitat and project impacts, and recommended mitigation as part of CEQA Initial Study, Highland Springs Reservoir, Clear Lake, CA. Summer 2001.
- Completed the California State University, San Bernardino Extension Course *California Desert Bats.* Bat roosting and foraging ecology, survey techniques, and management concerns with an emphasis on mines. May 1996.
- Completed the San Francisco State University Extension Course *The Ecology and Conservation of California Bats*. Bat natural history, survey techniques emphasizing acoustic monitoring, and conservation issues/management concerns with an emphasis on coniferous forest species of the Sierra Nevada. July 1996.

Acoustic Monitoring of Bat Echolocation for Identification and Habitat Use

- Completed Anabat AnalookW Analysis Training Workshop, Sacramento, 2011.

- Reviewed Anabat acoustic monitoring data for Meadow Peak Wind Project, MO. 2010.
- Teaching assistant for *California Desert Bats*, Desert Studies Center, Zzyzx, CA. 2008.
- Reviewed Anabat acoustic monitoring data for Coyote Wind Project, Billings, MO. 2008.
- Analyzed bat acoustic files recorded over three summers as part of the Trinity Alps Biological Study, CA. 2006-2007.
- Performed acoustic surveys, roost searches, and capture surveys for Newhall Ranch, Santa Clarita, CA. 2006.
- Performed acoustic surveys, habitat assessments, and capture surveys for Old Road Natural Environment Study, Santa Clarita, CA. 2006.
- Monitored foraging bats with heterodyne and time expansion Pettersson detectors as part of a meadow restoration project. Used Sonobat system to download acoustic files. Tahoe NF, CA. August 2004.
- Completed the *Bat Echolocation Symposium and Tutorial* on Anabat, BatSound, and Sonobat analysis software. Hands-on experience in techniques, software and recording. Presentations and tutorials in the field from twenty echolocation and analysis experts, including software inventors Chris Corben, Lars Pettersson, and Joe Szewczak, also experts Bill Rainey and Bob Berry. Austin, TX. April 2002.
- Completed *Using Sonobat for Noninvasive Bat Monitoring* training workshop on Sonobat analysis software. Advanced analysis techniques and field tutorials by software inventor Joe Szewczak. 2002.
- Completed *Acoustic Identification of Free-flying Bats Training Workshop* on Anabat analysis software. Lecture, interactive discussion, and field tutorials. May 2000.

Structural Surveys for Bat Roosts

- Surveyed all bat roosting habitat in structures associated with PG&E hydroelectric facilities as part of re-licensing projects for Merced Falls, Kern Canyon, Pit River #1, North Fork Feather River, Butt Valley, Bucks Lake, Mountain Meadows Reservoir, and Lake Almanor areas. Assessed habitat, located and characterized roosts (size, species, type) with an emphasis on special status species using direct observation, capture, and guano identification. Conducted colony emergence counts and night roost surveys using Anabat system and infra-red digital video, and provided management recommendations. Summer 2001-2010.
- Inventoried bat species and habitat use as part of Naval Support Services contract. Searched for bat occupancy in 39 structures at a base on Pt. Sur, various buildings and habitat features at the Navy Postgraduate School in Monterey, and various warehouses and test buildings in the Santa Cruz Mountains. 2010.
- Evaluated bat occupancy, assessed roost types, and made management recommendations in warehouse structures on CSU Chico campus. Summer 2006.
- Inspected abandoned warehouse buildings for bat occupancy and assessed roost types on former Army National Guard base. Conducted emergence counts and acoustic monitoring of foraging activity. Alameda, CA. Summer 2003 and 2004.

- Conducted habitat assessment and bat surveys in historical barn. Conducted emergence counts and night roost surveys using Anabat system and infra-red digital video, and provided management recommendations. Ano Nuevo State Park, CA. July 2004.
- Surveyed bat roosting habitat, identified species and roost types in structures associated with four reservoirs on the Marin Municipal Water District. Conducted emergence counts and night roost surveys using Anabat system and infra-red digital video, and provided management recommendations. 2003.

- Surveyed bat roosting habitat, identified species, and assessed occupancy in structures associated with the California Water Service Company. Conducted emergence counts and night roost surveys using Anabat system and infra-red digital video, and provided management recommendations. Clear Lake, CA. Summer 2003.
- Conducted habitat assessment and inspected all structures for bat roosting habitat on over 21,000 acres of island habitat as part of the EIR/EIS for the Delta Wetlands Project, Rio Vista, CA. Searched buildings, barns, abandoned homes, outbuildings, and bridges for sign of bat occupancy, conducted acoustic surveys to identify and confirm presence of foraging bats, discussed suitability of habitat for special status bat species, and recommended mitigation to improve bat habitat. Summer 2002.
- Conducted habitat assessment surveys and inspected extensive abandoned warehouse buildings to locate and characterize bat roosts as part of the EIR/EIS for the Tehama Colusa Canal Authority Fish Passage Improvement Project at the Red Bluff Diversion Dam, Red Bluff, CA. Recommended methods and mitigation for excluding bats from buildings. Summer 2002.
- Conducted internal and external inspections of several bridges occupied by bats as part of Natural Environment Studies under CEQA (Caltrans Protocol). Summer 2001.
- Inspected outbuildings and bridges to search for bat roosts as part of CEQA Initial Study, Highland Springs Reservoir, Clear Lake, CA. Summer 2001.
- Conducted structural investigations of rock formations, barns, and bridges in Sutter Co., CA. Located roosts using Anabat detector and/or visual observations (night vision equipment and ambient light), and conducted intensive emergence counts to determine seasonal occupancy. 1998-1999.
- Completed USFS, BLM, Bat Conservation International *Northern California Mine Assessment for Bats* training course, Redding, CA. June 1996.
- Completed *Mine Assessment for Bats:* BLM Training Course 1730-19B, Bakersfield, CA. Trained to perform mine exodus surveys, and educated on mitigation techniques including mine gating and habitat restoration, bat conservation, and natural history. April 1996.

Inventorying Bats Using Mist-Nets

- Conducted intensive bat inventory surveys on the Mt. Hough Ranger District, Plumas NF as part of forest management plans (Defensible Fuel Profile Zones). Inventories specifically focused on USFS sensitive species: pallid bat, Townsend's big-eared bat, and western red bat. 2002.
- Inventoried bat species roosting and foraging at specific habitat features (bridge, river, stream, meadow, and spring) on the Feather River Ranger District, Plumas NF. 2002.
- Conducted intensive bat inventory surveys along an elevational gradient on the Eldorado NF and Lake Tahoe Basin Management Unit as part of Sierra Nevada Framework Project, USFS. 2001.

Appendix D
Wildlife Observation Form

WILDLIFE OBSERVATION FORM

To Record Animals Found In Oakley Generating Station Project Areas

To be filled out by personnel who find active nest sites and burrows, dens, and dead or injured wildlife, or other biological resources during daily construction activities.

Name of employee:

Date:

Location of observation:

Wildlife Species:

Condition of wildlife:

alive ☐ dead ☐

Possible cause of injury or death:

Where is the animal currently?

Is the resource in danger of project (or other) impacts?

Comments:

Please contact the Designated Biologist for questions and to report any wildlife, nest, or den in the project area that could be disturbed. The Designated Biologist will advise personnel on measures required by California Department of Fish and Game (CDFG) and United States Fish and Wildlife Service (USFWS) to protect fish, wildlife and vegetation from construction impacts.

DESIGNATED BIOLOGIST: Rick Crowe Cell (916) 296-5525; Office (916) 286-0416
BIOLOGICAL FIELD MONITORS: Dan Williams Cell (916) 943-8247; Office (916) 286-0229
Victor Leighton Cell (916) 425-7862; Office (916) 286-0415

COMPANY: CH2MHILL
ADDRESS: 2485 Natomas Park Drive, St. 600

Appendix E
Noncompliance Resolution Report

This space reserved for filing any noncompliance resolution reports prepared during the course of the project.