CALIFORNIA COASTAL COMMISSION
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Following exhibit 4 on page 16 additional materials have been appended to this report.

Th12b

Date Filed:	April 21, 2008
49th Day:	June 9, 2008
180th Day:	October 18, 2008
Staff:	C. Cairns-SF
Staff Report:	April 24, 2008
Hearing Date:	May 8, 2008

STAFF REPORT: REGULAR CALENDAR

APPLICATION FILE NO.: **E-08-003**

APPLICANT: **Pacific Gas and Electric Company**

PROJECT LOCATION: Humboldt Bay Power Plant near the community of King Salmon on the shoreline of Humboldt Bay, in Humboldt County.

PROJECT DESCRIPTION: Remove a 2.7 million-gallon above-ground fuel oil tank and appurtenances from the Humboldt Bay Power Plant (HBPP) and construct a temporary access road.

LOCAL APPROVALS: None required.

EXHIBIT 1: Area Map with Project Location

EXHIBIT 2: Site Plan with Topography

EXHIBIT 3: Wetland Impact Areas

EXHIBIT 4: Proposed Wetland Mitigation Sites

SUBSTANTIVE FILE DOCUMENTS:

- Coastal Development Permit Application from PG&E (January 15, 2008).
- PG&E, Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for LFO Tank Removal Project (April 2008).
- CH2MHILL, Final Sampling and Analysis Plan, PG&E Humboldt Bay Power Plant Fuel Oil Storage Tank Unit No. 2 Spill Investigation (August 2006).

SUMMARY

In this application, PG&E proposes to remove a 2.7 million-gallon above-ground fuel oil tank and appurtenances from the Humboldt Bay Power Plant (HBPP) located in Humboldt County, California. No new structures are proposed as part of this application.

The key issue is that removing the tank will result in a loss of 0.31 acres of low quality wetlands. To facilitate the tank removal, PG&E proposes to construct a temporary access road through an undeveloped portion of the site containing about 0.28 acres of grassland with wetland characteristics and 0.03 acres of riparian wetlands. To mitigate the loss of the 0.31 acres, PG&E proposes to restore and enhance a total of 0.50 acres of similar low quality grasslands to the southeast of the tank area, enlarging the nearby Buhne Point Wetlands Preserve. PG&E has submitted a project-specific Wetland Mitigation Plan outlining the proposed mitigation and monitoring efforts. The Commission staff is recommending the Commission require two Special Conditions. **Special Condition 1** would require PG&E to submit a revised Wetland Mitigation Plan with more detailed performance criteria and survey methods, specific deadlines for mitigation and monitoring, and provisions for further remediation if unsuccessful. **Special Condition 2** would require PG&E to execute a deed restriction that would record the wetland mitigation requirement of this permit.

As conditioned, staff believes the project will be carried out consistent with Coastal Act Section 30231, as well as other applicable sections of Chapter 3. Staff recommends that the Commission **approve** the proposed project, as conditioned.

1.0 RECOMMENDED MOTION AND RESOLUTION

The staff recommends approval of the permit application, subject to standard conditions.

Motion:

> *I move that the Commission approve Coastal Development Permit E-08-003 subject to conditions specified below.*

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of Commissioners present.

Resolution:

> *The Commission hereby approves a Coastal Development Permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

2.0 STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. This permit is not valid and development shall not commence until a copy of the permit, signed by the applicant or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land: These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

3.0 SPECIAL CONDITIONS

1. PRIOR TO ISSUANCE OF THIS PERMIT, PG&E shall submit for Executive Director review and approval a Revised Wetlands Mitigation and Monitoring Plan that includes specific standards for target vegetation coverage (%) by species, target species composition, target wildlife usage, and survey methods based on statistical analysis. PG&E shall implement the approved revised plan. If the Executive Director concludes that after 5 years the wetland mitigation has been unsuccessful, in part or in whole, based on the approved performance standards, PG&E will submit within 90 days of the Executive Director's determination in the form of an amendment to this permit a remediation plan to compensate for those portions of the original mitigation that did not meet the approved performance standards.

2. No later than October 1, 2008, PG&E shall submit to the Executive Director for review and approval documentation demonstrating that PG&E has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that pursuant to this permit, the California Coastal Commission has authorized development on the subject property subject to terms and conditions that restrict the use and enjoyment of that property; and, (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

   The deed restriction shall establish a wetland mitigation site of no less than 0.50 acres and shall include limitations necessary to ensure development in or adjacent to the identified mitigation site does not diminish the site's wetland functions and values, including water quality improvement and native wildlife habitat. PG&E may submit the required deed restriction documentation as part of the deed restriction required under CDP E-07-005 for the HBPP Repowering Project, which is also part of a mitigation proposal currently under review by the California Energy Commission (CEC). The Executive Director may, upon PG&E's request, provide a reasonable extension of this deadline should there be a delay in the Energy Commission's review process.

4.0 FINDINGS AND DECLARATIONS

4.1 Project Purpose and Description

PG&E proposes to remove a 2,730,000-gallon, 50-foot tall above-ground welded steel fuel oil tank and appurtenances from the Humboldt Bay Power Plant (HBPP), next to Humboldt Bay near King Salmon, Humboldt County (see Exhibit 1). Specific appurtenances to be removed include: piping, heat exchangers, metering equipment, transfer pumps, electrical raceways and equipment controls. The tank and all appurtenances up to 1-foot below existing grade will be emptied of residual oil, cleaned, dismantled and transported offsite to a recycling facility, requiring approximately 15 truck trips. No new structures are proposed as part of this application (see Exhibit 2). An 11-foot high berm surrounds the tank; an area 24-feet wide (12,500 cubic feet) will be cut through the berm to allow diesel trucks to access the tank site. This cut material will remain stockpiled onsite and used for future construction projects at the HBPP. The area within the berm will be backfilled to existing grade, post-tank demolition.

PG&E proposes to remove approximately 200-400 cubic yards of contaminated soil from an area adjacent to the tank; the final amount will be determined by the depth of soil at which levels above North Coast Regional Water Quality Control Board (NCRWQCB) contamination objective standards are reached. Removal of the impacted soil is expected to require 10-20 truck trips, with each truck carrying about 20 cubic yards. Further soil and groundwater analysis will be conducted beneath the tank once the structure is removed; additional soil may need to be removed and transported offsite, per the requirements of the NCRWQCB. Contaminated soils will be taken to either the Anderson Solid Waste Landfill (160 miles from the HBPP) or the Redwood Landfill in Novato (240 miles).

The project also includes constructing a 24-foot wide temporary construction access roadway extending northwest from the tank site (through the berm cut) to King Salmon Avenue, traversing an undeveloped portion of the site containing Coastal Commission-delineated wetlands (see Exhibit 3). The temporary road would remain unimproved (no gravel or other road base is proposed, equipment will drive over mowed grass), except for an approximate 50-foot long, 24-foot wide paved encroachment onto King Salmon Avenue that would minimize tracking of soil onto adjacent roadways. Silt barrier fencing would be installed on either side of the access road, as well as absorbent fiber roll in the middle section, to prevent erosion impacts in surrounding riparian areas.

Construction of the temporary access road and removal of the tank and appurtenances would be conducted during dry weather conditions in summer months only. The roadway would be maintained until project activities and soil remediation are completed, at which time the grassland area in the roadway would be restored to pre-project conditions. Wetland mitigation would begin as soon as possible upon approval of this permit.

Humboldt County has determined that the proposed project is categorically exempt from CEQA requirements, pursuant to Section 15302(c) of the CEQA Guidelines. The County also determined the proposal meets applicable zoning requirements and needs no local permits other than building permits.

4.2 Coastal Commission Jurisdiction and Standard of Review

The proposed project is within the Commission's retained jurisdiction. The standard of review is whether the project complies with the policies of Chapter 3 of the Coastal Act.

4.3 Conformity to Applicable Coastal Act Policies

4.3.1 Wetland Protection

Coastal Act Section 30231 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Development associated with the proposed project would occur in and adjacent to wetlands on the power plant site (see Exhibit 3). The HBPP site includes a wide variety of wetland types, from areas of relatively high quality riparian marsh and salt marsh to lower quality grasslands with wetland characteristics. Although the site is occupied by an active power plant and associated infrastructure, its location on the shoreline of Humboldt Bay results in some of these areas having relatively high levels of wildlife and shorebird use.

The tank removal project would directly impact about 0.31 acres of Coastal Commission-delineated wetlands, consisting of approximately 0.28 acres of grassland and 0.03 acres of riparian wetlands. The table below shows the approximate acreage for impact and mitigation areas for each type of wetland:

CCC Wetland Type:	**Direct Impact (acres):**	**MIT-A (3.1:1 ratio) acres:**	**MIT-B (1.2:1 ratio) acres:**
Grassland	**0.279**		
• *Permanently Impacted*	*0.035*	0.109	
• *Temporarily Impacted*	*0.244*		0.293
Riparian wetlands	**0.031**		
• *Permanently Impacted*	*0.031*	0.096	
Total Impacted:	**0.31**		
		0.205	0.293
Total Mitigated:		**0.50**	

PG&E considered the feasibility of alternative access routes that would use existing paved areas and avoid wetland areas. None of these other routes, however, would allow the diesel construction trucks to enter and exit safely from the bermed tank area. The current HBPP road to the tank area is as narrow as 10 feet wide in places and cannot accommodate larger construction equipment. Furthermore, the HBPP roads are currently used by diesel trucks delivering fuel to the plant, which would make passing of large trucks dangerous. In addition, the existing paved access road to the bermed area is not large enough to safely allow trucks to turn around and exit during tank removal and soil remediation activities. Current activities at the HBPP limit the remaining access road alternatives to the open space west of the tank area. Relatively high quality riparian marsh wetlands lie throughout the southwest portion of the HBPP site and the recently permitted Independent Spent Fuel Storage Installation (ISFSI) area, which has restricted access, is situated to the northwest of the tank. As the only remaining feasible option, the proposed temporary access road uses what is likely to be the least environmentally sensitive available open area to access the tank site.

Although the proposed roadway is located in and adjacent to wetlands, most of the wetlands are grassland (as shown above) and low quality. PG&E believes the access corridor is an extension of an abandoned farm road that predates the power plant. Prior use compacted the soil, which led to the formation of wetland characteristics caused by an accumulation of sheet flow; in addition, much of the route is underlain by compacted gravel fill elevating it slightly above adjacent wetlands (road base may have been installed previously). Commission staff assigned the grassland areas as wetlands due to the presence of facultative plants[1], which allowed the areas to meet the vegetation parameter (a small area of hydric soils were also recently found in an easternmost portion of the proposed access road as it nears the fuel oil tank berm). While the grassland areas are wetlands pursuant to the Commission's definition due to the presence of wetland vegetation, they provide relatively limited wetland habitat or water quality functions. No federal or state-listed species occur within the project site; however, Northern red-legged frogs, a state-listed Species of Concern, and other amphibians, reptiles and small mammals are known to inhabit the wetland areas.

There exist open areas of freshwater marsh to the north and south of the access road and tank removal site, as depicted in Exhibit 3, which provide relatively high quality wetland habitat used by numerous shorebirds and other wildlife. The proposed deconstruction activity at the tank removal site would occur away from existing freshwater marsh. However, development of the access road would require loss of 0.031 acres of riparian wetland habitat as PG&E proposes to remove four trees of native willow and red alder species along with minor brush clearing within the intended access roadway. These trees provide habitat for songbirds and potential perch sites for foraging raptors such as sharp-shinned hawk and Cooper's hawk.

PG&E has included in the proposed project several measures to compensate for the potential adverse effects of project activities on the wetland areas, as described in the April 2008 Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for LFO Tank Removal Project (Wetland Plan). In this project-specific Wetland Plan, PG&E proposes to restore two adjacent

[1] Facultative plants are equally likely to occur in wetland or non-wetland areas. Fur purposes of wetland designation, facultative plants are considered indicators of wetland characteristics.

wetland areas totaling 0.50 acres on the southeast side of the power plant site (see Exhibit 4) next to the wetland areas proposed for mitigation under the HBPP Repowering project. These additional areas are identified as MIT-A and MIT-B in the Wetland Plan and consist largely of degraded wetlands supporting primarily non-native facultative grasses, compacted (hydric) soils and fill from a former access road. However, the conditions are such that the two areas have a strong potential to be restored as they are located adjacent to existing, higher quality salt marsh and riparian wetlands.

With MIT-A, PG&E intends to compensate for permanent impacts to 0.035 acres of grassland from removal of the earthen berm and 0.031 acres of riparian wetlands from removal of trees along the proposed access road (0.066 acres total) by restoring approximately 0.20 acres of degraded grassland at a ratio of 3.1:1. The mitigation efforts in MIT-A will consist of removing exotics and planting riparian trees (willows) and shrubs as well as scarifying an abandoned road bed marked by fill and compacted soil. MIT-B will offset 0.244 acres of temporarily impacted wetlands located in the proposed access roadway by enhancing 0.29 acres of grassland at a ratio of 1.2:1. No planting is proposed in MIT-B, although exotic plants will be removed through selective weed control and disturbance to the landscape (i.e. mowing or driving) will not be permitted in this area to allow native, hydrophytic species to recolonize naturally from the adjacent riparian areas.

PG&E has included in its Wetland Plan mitigation goals, objectives, and performance criteria, as well as a list of acceptable plants to be used at the mitigation sites, an implementation schedule, and provisions for monitoring. **Special Condition 1** requires PG&E to revise this Wetland Plan to provide more specific target vegetation coverage and wildlife usage metrics, as well as detail the proposed survey techniques used to determine these metrics, based upon statistical analysis. PG&E has agreed to complete wetland enhancement activities at the mitigation sites no later than October 31, 2009 and provide final mitigation site design plans by December 31, 2009. PG&E will submit annual monitoring reports in December of each year beginning in 2008, culminating in a final monitoring report no sooner than 3 years after the end of all remediation activities. If the Executive Director of the Coastal Commission concludes that after 5 years the mitigation project has been unsuccessful, in part or in whole, based on the approved performance standards, PG&E will submit within 90 days of the Executive Director's determination in the form of an amendment to this permit a revised mitigation (remediation) plan to compensate for those portions of the original mitigation which did not meet the approved performance standards.

Special Condition 2 requires PG&E to submit to the Executive Director a deed restriction to ensure that development in or adjacent to the identified mitigation sites does not diminish the sites' wetland functions and values.

Successful completion of this proposed mitigation would result in higher overall wetland functions and values than those that would be lost due to the project. As stated, the bulk of the proposed project's impacts, as well as the proposed mitigation efforts, occur within low quality single-parameter wetlands. Because the mitigation areas MIT-A and MIT-B will be sited adjacent to one another and existing riparian and salt marsh habitat, as well as the proposed mitigation areas for the HBPP Repowering project, they may create a much larger net benefit than the acreage would if separated.

For the reasons described above, the Commission finds that the project, as conditioned, is consistent with Coastal Act Section 30231.

4.3.2 Spill Prevention and Response

Coastal Act Section 30232 states:

> *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Removing the tank could result in a release of residual fuel oil. While the tank area is bermed to prevent spillage out to coastal waters, groundwater could be impacted. Temporary use of motor vehicles and equipment during construction activities also increases the risk of oil spills in or adjacent to wetlands and potentially coastal waters (via the wetland watershed). Coastal Act Section 30232 requires an applicant to undertake measures to prevent an oil spill and to clean up spills should they occur.

The fuel oil tank previously stored No. 6 fuel oil (also known as Bunker C or Residual), a heavy residual oil that has low concentrations of lighter fraction hydrocarbons. The residual oil left in the tank is likely to occur in both liquid and solid forms. PG&E proposes to remove the liquid fuel oil by pumping directly into 7,000 gallon tanker (diesel) trucks and transporting the oil offsite to a certified recycling facility. The contractor will physically remove solid residual with either hand tools or excavating equipment, depending on the amount present, and transfer it to 20-yard rolling bins to be transported offsite to a certified recycling facility.

The tank is located in a bermed area that is designed to contain 65,000 barrels of fuel oil, the entire amount that could be stored in the tank. However, PG&E expects the current quantity left in the tank at less than 1,500 barrels. Because the original berm will be compromised with a 24-foot wide cut to allow entry and exit of construction equipment, PG&E has agreed to maintain appropriate spill response equipment onsite (i.e. sorbent waddles as well as machinery capable of filling in the gap in the earthen berm) during removal of residual liquids to contain any spills that may occur. In addition, the two closed-valve drains within the berm will be secured and protected with impenetrable barriers to prevent any release down the site drainages during the tank removal. PG&E also maintains a supply of oil spill cleanup items, including absorbent booms, pads and other absorbing material, at the main power plant, which are immediately available if needed. Emergency spill response training will be provided on-site for project personnel as well as daily briefings on safety and environmental protection related to the activities for the day. As a protective measure in the event of a large spill, PG&E has also agreed to employ a third party oil spill response contractor who will keep sufficient oil spill response equipment on-site capable of containing and cleaning-up the largest reasonable worst case spill of the tank's entire contents of 1500 barrels. Prior to tank removal commencement, PG&E will submit the contract information for the oil spill response contractor, as well as a list of the spill response equipment to be maintained on-site and a copy of the Oil Spill Response Plan to be used by the contractor.

Approximately 15 truck trips will be necessary to transport construction equipment and tank removal materials to and from the tank removal site along the access road. An additional 10 to 20 truck trips will be necessary to remove the identified 200-400 cubic yards of contaminated soil within the tank area and several more trips may be necessary following tank removal, depending on the results of the future soil analysis beneath the tank. As mentioned above, the proposed access road transects Coastal Commission-delineated wetlands and therefore use of the road by diesel trucks poses a risk of spill to the surrounding wetlands and watershed, potentially extending to local coastal waters.

PG&E has committed to implement project-specific oil spill prevention and contingency measures as well as adhere to the Spill Prevention and Contingency Plan (SPCP) already in place at the HBPP. These include several Best Management Practices (BMPs) to avoid and minimize the potential for spills on the HBPP site and in nearby wetlands, including installing fiber rolls in riparian areas alongside the temporary access road to absorb oil and keep eroded soil out of the wetlands, maintaining an environmental boundary fence (silt fence) to direct vehicles along the access road and away from wetlands or other sensitive areas, and placing other spill response equipment where the greatest risk of release exists (i.e. drains in bermed area).

With implementation of the measures discussed above, the Commission finds that the project will provide adequate protection against spills and effective containment and clean-up equipment and procedures if a spill occurs. The Commission therefore finds the project is consistent with Section 30232 of the Coastal Act.

4.3.3 Public Access

Coastal Act Section 30211 states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Coastal Act Section 30212(a) states:

> *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.*

Coastal Act provisions require generally that development not limit public access to the shoreline and that projects located between the first public road and the sea in most cases provide public access.

The project site is entirely within the existing power plant complex, which is subject to a number of public access restrictions, including the high security requirements associated with the shut-down but not yet decommissioned nuclear power plant and waste storage facility. There is an existing public access trail along the Humboldt Bay shoreline (outside the HBPP boundary) which PG&E recently improved and protected via a deed restriction to ensure long-term public access of the shoreline. Aside from transport of materials, the project will be contained completely within the HBPP site and will not affect the public's use or enjoyment of this shoreline trail. Future intended use of the tank area, including materials storage and equipment lay-down, parking and office modulars, would not create additional impact to public access. The project's main potential for affecting public access would be due to the 25-35 total additional round trips by truck (including 15 for transport of construction equipment and tank materials and 10-20 to remove the contaminated soil) to and from the power plant along King Salmon Avenue; however, these additional trips would be spread out over several weeks. Therefore, due to the relatively minor number of vehicle trips per day and the project's location within a restricted area, the project will not interfere with the public's access to the shoreline.

The Commission thus finds the project will not adversely affect public access to and along the coast and is consistent with Sections 30211 and 30212(a) of the Coastal Act.

4.3.4 Air Quality

Coastal Act Section 30253(3) states:

> *New development shall be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*

The proposed project will require approximately two months of site activity to be scheduled during summer months. During that time, project equipment (excavator, loader and two trucks) will be in operation 8 hours a day, 5 days per week. Short-term air emissions from project equipment are expected to be below adopted air quality significance thresholds for demolition projects[2]. Because the project will only include temporary construction activities, PG&E is not required to obtain any air permits. The Commission finds the project is consistent with Section 30253(3) of the Coastal Act.

[2] Air quality significance thresholds have been adopted from the South Coast Air Quality Management District (SCAQMD) since the North Coast Unified Air Quality Management District (NCUAQMD) has not adopted thresholds of significance. Short-term air emissions are expected to total 0.8 tons of NO_x, 0.001 tons of SO_x, 0.6 tons of CO, 0.08 tons of Volatile Organic Compounds (VOCs), 0.03 tons of PM_{10} and 0.18 tons of $PM_{2.5}$.

5.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of the CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment. Mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

Exhibit 1

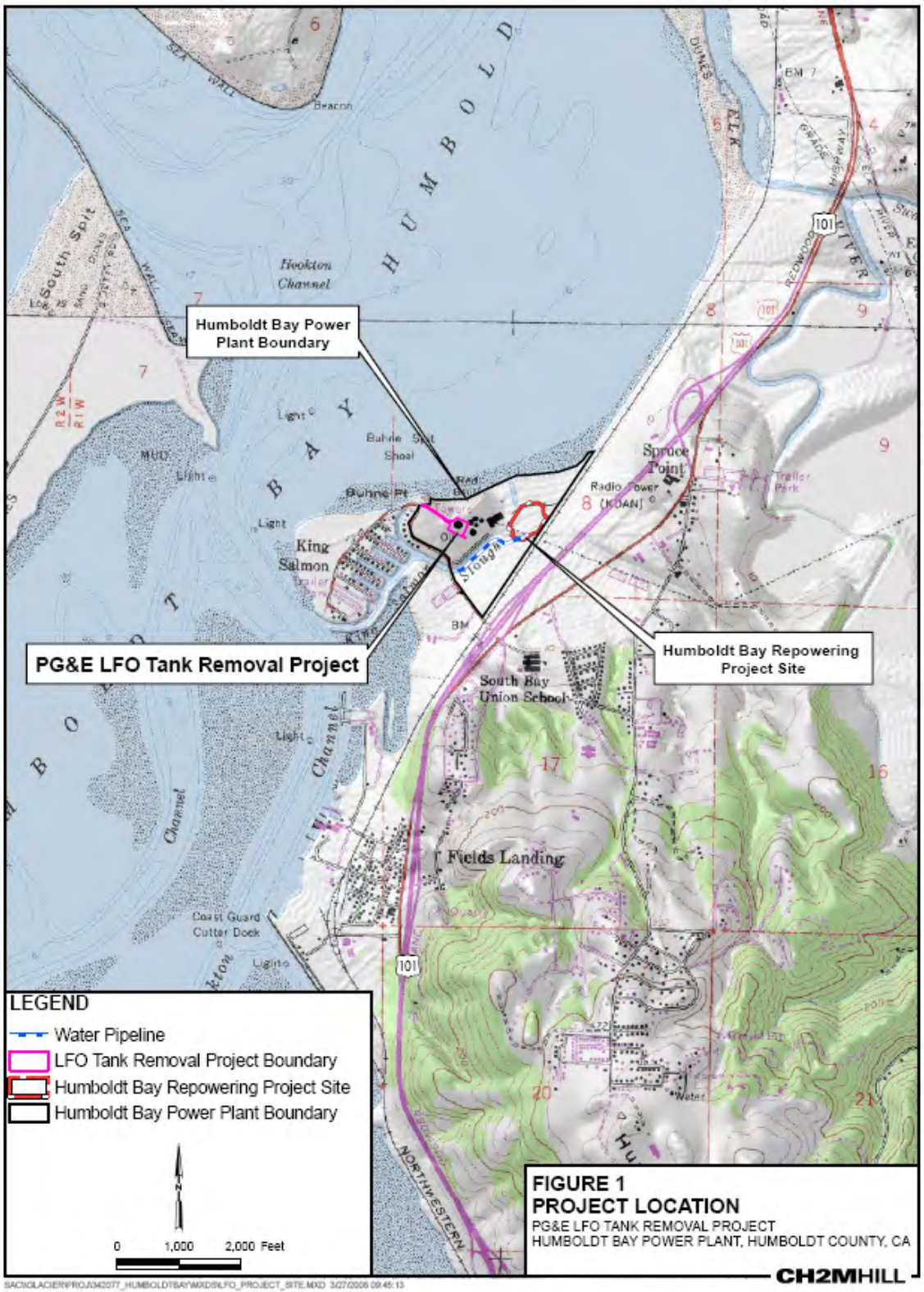
Humboldt Bay Power Plant Boundary
PG&E LFO Tank Removal Project
Humboldt Bay Repowering Project Site
HUMBOLDT BAY
Hookton Channel
King Salmon
Spruce Point
South Bay Union School
Fields Landing
Coast Guard Cutter Dock
Channel
NORTHWESTERN
101
LEGEND
Water Pipeline
LFO Tank Removal Project Boundary
Humboldt Bay Repowering Project Site
Humboldt Bay Power Plant Boundary
0 1,000 2,000 Feet
FIGURE 1
PROJECT LOCATION
PG&E LFO TANK REMOVAL PROJECT
HUMBOLDT BAY POWER PLANT, HUMBOLDT COUNTY, CA
CH2MHILL

Exhibit 2


LACO ASSOCIATES
CONSULTING ENGINEERS
COASTAL DEVELOPMENT PERMIT
FOSSIL DECOMMISIONING ACTIVITY
PACIFIC GAS & ELECTRIC COMPANY
HUMBOLDT BAY REPOWERING PROJECT
EUREKA, CALIFORNIA
FIGURE 6
HUMBOLDT BAY
Date of Photography: May 8, 2006
Scale of Photography: 1:3600
Horizontal Datum: California Coordinate System, Zone 1
North American Datum of 1983 (NAD83, CORS, 2004.0)
Vertical Datum: North American Vertical Datum of 1988 (NAVD88)
Ground Control Survey by: Towill, Inc.
FUEL OIL TANK
DEMO AREA
Access Road
DUNE FOOT
N

Exhibit 3

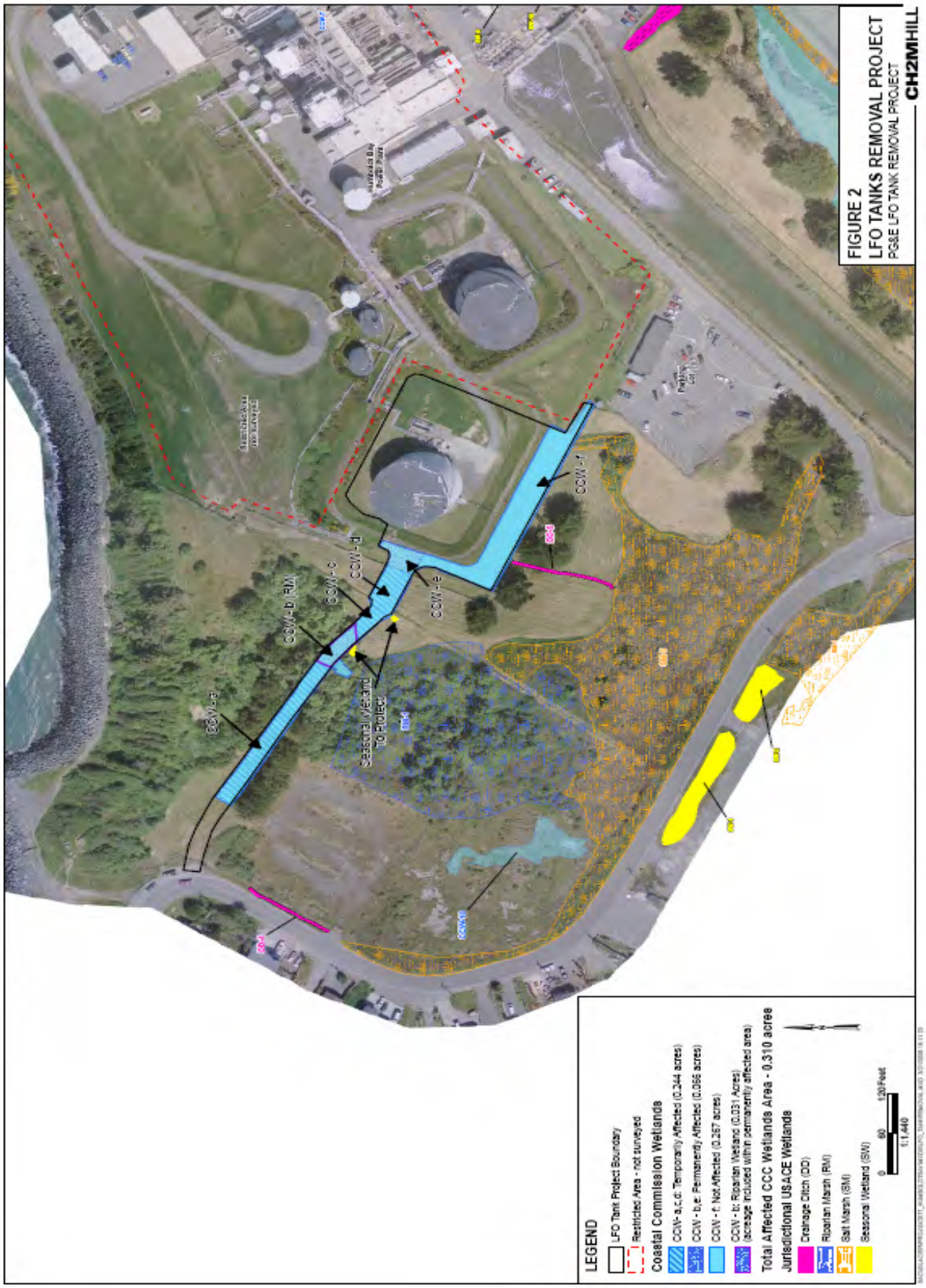
FIGURE 2
LFO TANKS REMOVAL PROJECT
PG&E LFO TANK REMOVAL PROJECT
CH2MHILL
LEGEND
LFO Tank Project Boundary
Restricted Area - not surveyed
Coastal Commission Wetlands
CCW- a,c,d: Temporarily Affected (0.244 acres)
CCW - b,e: Permanently Affected (0.066 acres)
CCW - f: Not Affected (0.267 acres)
CCW - b: Riparian Wetland (0.031 Acres)
(acreage included within permanently affected area)
Total Affected CCC Wetlands Area - 0.310 acres
Jurisdictional USACE Wetlands
Drainage Ditch (DD)
Riparian Marsh (RM)
Salt Marsh (SM)
Seasonal Wetland (SW)
0 60 120 Feet
1:1,440
CCW-a
CCW-b RM
CCW-c
CCW-d
CCW-e
CCW-f
Seasonal Wetland To Protect
DD
SM
SW

Exhibit 4

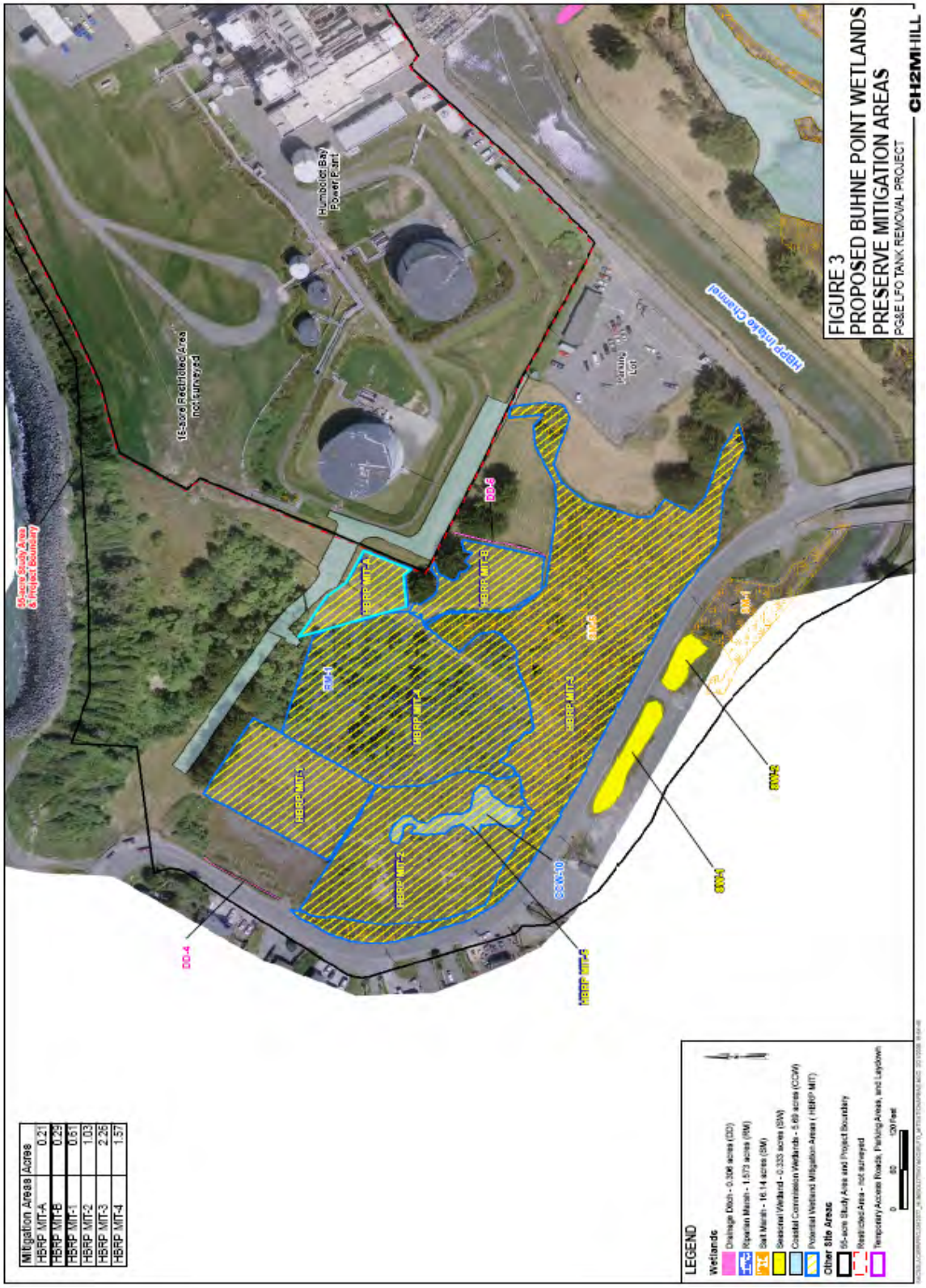
FIGURE 3
PROPOSED BUHNE POINT WETLANDS PRESERVE MITIGATION AREAS
PG&E LFO TANK REMOVAL PROJECT
CH2MHILL
LEGEND
Wetlands
Drainage Ditch - 0.306 acres (DD)
Riparian Marsh - 1.573 acres (RM)
Salt Marsh - 16.14 acres (SM)
Seasonal Wetland - 0.333 acres (SW)
Coastal Commission Wetlands - 5.69 acres (CCW)
Potential Wetland Mitigation Areas (HBRP MIT)
Other Site Areas
55-acre Study Area and Project Boundary
Restricted Area - not surveyed
Temporary Access Roads, Parking Areas, and Laydown
0 85 170 Feet
Mitigation Areas Acres
HBRP MIT-A 0.21
HBRP MIT-B 0.29
HBRP MIT-1 0.61
HBRP MIT-2 1.03
HBRP MIT-3 2.26
HBRP MIT-4 1.57
Humboldt Bay Power Plant
15-acre Restricted Area not surveyed
55-acre Study Area & Project Boundary
HBRP Mit-1
HBRP MIT-2
HBRP MIT-3
HBRP MIT-4
HBRP MIT-A
HBRP MIT-B
DD-4
DD-5
DD-6
DD-7
DD-8
SSW-10
Parking Lot
HBRP Entrance Channel

Th12b

Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for LFO Tank Removal Project, Humboldt County, California

Submitted to

California Coastal Commission

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Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for LFO Tank Removal Project, Humboldt County, California

Prepared for

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SECTION 1

Overview

Pacific Gas and Electric (PG&E) owns 143 acres at the Humboldt Bay Power Plant property, which is located in unincorporated Humboldt County adjacent to Humboldt Bay near Eureka, California (Figure 1). The Humboldt Bay Power Plant incorporates five existing power generation units including 2 natural gas-fired steam generating units; a currently inoperable nuclear plant (Unit 3) and 2 small turbines known as the Mobile Emergency Power Plants (MEPPs). These power generation units are collectively known as the Humboldt Bay Power Plant. PG&E is proposing to construct the Humboldt Bay Repowering Project (HBRP), a new natural gas-fired power plant south of the existing Humboldt Bay Power Plant within the PG&E property boundary starting in 2008. The property is entirely within the California Coastal Zone, and zoned Coastal-Dependent Industrial. In addition to the HBRP, PG&E is seeking to demolish and remove a fuel oil tank and appurtenances on the Humboldt Bay Power Plant site. This project, collectively known as the LFO Tank Removal Project (LFOTRP), is the subject of this mitigation and monitoring plan.

A delineation of waters of the United States (including wetlands) was conducted by CH2M HILL for PG&E in 2006 and 2007 within portions of the 143-acre PG&E property. The California Coastal Commission (CCC) retains jurisdiction over wetland habitats in the Coastal Zone, which include wetlands under the jurisdiction of the U.S. Army Corps of Engineers (USACE), as well as areas that have one or more wetland parameters typically not regulated by USACE (CCC, 1994). CCC wetlands with boundaries extending beyond the USACE 3-parameter method were defined only on the presence of positive criteria for hydrophytic vegetation, as all other wetlands are included under the USACE definition. The wetland delineation was verified by the USACE on May 2, 2007 (USACE File No. 400205N), and the CCC scientist verbally verified wetlands mapped at the HBRP site during a site visit on February 1, 2007. An additional wetland delineation was conducted within the proposed LFOTRP work area (Figure 2).

PG&E is dedicating an area on the western edge of the 143-acre property for The Buhne Point Wetlands Preserve (Preserve) (Figure 3). This Preserve is being established to compensate for the effects to seasonal wetlands and drainages from HBRP construction. With the LFOTRP, additional CCC wetland habitat would be affected. To compensate for those effects, PG&E added areas to the Preserve (Figure 3).

1.1 LFOTRP Demolition and Temporary Haul Road

The LFOTRP proposes to demolish one 2,730,000-gallon 50-foot tall above-ground welded steel fuel oil tank and appurtenances within the work limits shown on Figure 2. Specific appurtenances to be removed from the site include piping, heat exchangers, metering, transfer pumps, electrical raceways and controls. The tank and appurtenances 1-foot below existing grade and above will be cleaned to a disposal standard and will be transported offsite to a disposal and/or recycling site. A proposed 24-foot wide temporary roadway traversing

through an undeveloped portion of the property extending northwest from the demolition area to King Salmon Avenue will be utilized as shown on Figure 2. This temporary haul road will remain unimproved except for the approximate 50-foot long and 24-foot wide improved encroachment onto King Salmon Avenue. The 24-foot traveled way will be delineated by silt fencing on either side. This proposed entrance and haul road is necessary for the transportation of demolition material offsite due to truck traffic on the existing internal Humboldt Bay Power Plant roadway system. Two-way traffic of diesel delivery trucks and demolition material haul trucks is not feasible with the current Humboldt Bay Power Plant roadway layout. The temporary roadway will be maintained until October 2009 to insure adequate time and conditions to support contaminated soil remediation. The total work limits for the project cover approximately 65,000 square feet.

1.1.1 Grading and Erosion Control

An 11-foot high berm surrounds the LFO tank demolition area and an area 24 feet wide will be cut through the berm for the temporary haul road to access the tank and appurtenances. Post demolition and removal of appurtenances, the work limits within the berm will be improved with engineered fill to existing grade and the berm cut will remain in-place. The cut material from the berm will be reused onsite.

Erosion control measures will be installed along the temporary roadway and also within the demolition work limits as shown on Figure 3. A silt fence is proposed on either side of the 24-foot roadway. The two existing drop inlets located inside the berm will be closed prior to demolition commencement and protected with sand bag barriers.

This wetland mitigation and monitoring plan is being prepared to compensate for specific impacts from LFOTRP. The LFOTRP will result in temporary impacts to a total of 0.244 acres of Coastal Commission one-parameter wetlands and permanent impacts to a total of 0.066 acres (0.035 acres of managed grassland and 0.031 acres of riparian communities), and will require a Coastal Development Permit from the CCC. The following plan outlines enhancement activities to be conducted for two degraded CCC wetlands located within the study area to mitigate for the temporary and permanent impacts to CCC wetlands resulting from the construction of a temporary access road for the demolition of the tank. This mitigation plan is designed to provide landscape continuity to wetland mitigation sites in the Buhne Point Wetlands Preserve that will be enhanced, restored and/or created for the larger HBRP project.

SECTION 2

Existing Wetlands

Use of the temporary access haul road for the removal of the LFO tank and appurtenances will impact 0.310 acre of Coastal Commission wetlands (CCW). These CCW regulatory wetlands consist of 0.279 acre of managed (i.e. mowed) grassland and 0.031 acre of riparian wetlands that occupy a 24-foot wide corridor that passes through a forested riparian area that meets the Coastal Commission wetland criteria, and to a lesser degree upland grassland habitat, that spans from King Salmon Avenue to near the edge of the berm that encompasses the LFO tank (Figure 2). This corridor is thought to be an extension of the original farm road, much of which is underlain by compacted gravel fill elevating it slightly above the adjacent habitats. Evidence of wetland hydrology is absent within these CCW wetlands; however, hydric soils were found in the easternmost portion of the proposed access road as it nears the LFO tank berm. The CCW wetland areas in the LFOTRP area are functionally managed grasslands.

Impacts to CCW managed grassland within the temporary access haul road are considered temporary, as these areas will be restored to their pre-project condition upon completion of the project. No gravel or other road base is proposed, the construction equipment will drive across the mowed grass areas. The topsoil with seed bank will not be removed, trucks and equipment will only drive over the surface. Restoration would include scarification of the road area to loosen any compacted surface areas. The loose soil would then be re-spread across the restoration area, which would allow the existing seed bank (with CCW wetland species such as perennial ryegrass (*Lolium perenne*) to germinate and grow. If vegetation does not regrow within one winter-spring season, native wetland vegetation or seed stock from a local nursery would be planted/seeded as necessary to obtain 90 percent cover.

Only a small, 0.035-acre area of CCW managed grassland in the vicinity of the berm will be permanently impacted. Impacts to the riparian wetlands are considered permanent since this vegetation will not be replanted in the road area in an effort to maintain an open corridor for existing utility lines and an alternate emergency access for the power plant. The temporary road will not be paved or graveled but will be used by Humboldt Bay Power Plant through the end of 2009 for emergency use.

As shown in Figure 2, two small U.S. Army Corps of Engineers (USACE) wetland depressions were delineated in the vicinity of the proposed project, occupying a total area of 0.0017 acres. They occur adjacent to the proposed temporary access haul road but outside of the area of impact. These areas will be avoided by establishing barrier/silt fencing between the wetlands and the haul road. None of the wetlands within the temporary access haul road or on the berms surrounding the LFO tank meet the USACE wetland criteria.

2.1 Ecological Assessment of the One-Parameter CCC Wetlands on Site

The vegetation associated with the CCW managed grassland consists primarily of non-native, herbaceous, facultative wetland species, predominately perennial ryegrass (*Lolium perenne*). The presence of this vegetation within the roadbed may be a response to sheet flow being driven to the surface due to soil compaction and/or presence of road fill from historic activities on site. The site is mowed by PG&E for access and visibility. Wildlife habitat value is minimal. Northern red-legged frogs and other amphibians, reptiles and small mammals may cross this area to reach more optimal habitats that abut the road bed, and raptors such as sharp-shinned hawk and Cooper's hawk could potentially forage here. No federal or state listed species occur on site.

The riparian wetlands (RM-1) impacted by the proposed project consist of a mix of native willow (*Salix* sp.) and red alder (*Alnus rubra*), tree species that have encroached onto the roadway from adjacent habitats. Minor brush clearing and four of the trees will be removed to maintain the 24-foot wide road clearance. This vegetation provides nominal habitat for songbirds and potential perching sites for foraging raptors. The impacted trees border a larger riparian community that extends north and south of the roadway.

SECTION 3

Mitigation Sites

Two areas on the PG&E property were identified as suitable for fulfilling LFOTRP wetland mitigation needs. These areas (MIT-A and MIT-B) are adjacent to each other and in the same watershed (Figure 3). The mitigation areas are also adjacent to the proposed Buhne Point Wetlands Preserve HBRP mitigation area consisting of 5.60 contiguous acres of enhanced and created wetlands that will be preserved in perpetuity under a deed restriction on the PG&E property (CH2M HILL, 2007). With the addition of LFOTRP proposed mitigation areas, the protected wetland and riparian community in the Preserve will be 6.09 acres in extent.

The mitigation and monitoring plan for all proposed mitigation areas for the LFOTRP and HBRP are summarized in Table 1 below to show the relationship between the LFOTRP MIT-A and MIT-B areas (in bold type) and adjacent mitigation conducted as part of the HBRP.

TABLE 1
On-Site Wetland Mitigation Areas for LFOTRP (in bold type) and HBRP

Proposed Mitigation Area	Area Available (acres)	Location	Mitigation Plan/Compensation	Timing for Mitigation (Before or After HBRP construction)
~~MIT-1~~	~~0.61~~	~~Northwest corner of property,~~ paved remote parking lot. Contiguous with riparian (RM-1) and salt marsh (SM-5) habitats.	~~Remove temporary fill and~~ CREATE a) 0.144 acres of riparian b) 0.1 acres of seasonal wetlands c) 0.3 acres of CC wetlands Place under deed restriction. Compensates for permanent loss of Coastal Commission wetlands and permanent and temporary losses of USACE seasonal wetland, drainage ditch, and freshwater marsh habitats.	~~After~~
MIT-2	1.03	South of remote parking contiguous with SM-5 and RM-1.	Remove temporary fill and CREATE a) 0.144 acres riparian wetland b) 0.152 acre of seasonal/perennial wetland c) 0.111 acre of drainage ditch wetland d) 0.695 acres of CC wetland Place under deed restriction Compensates for permanent loss of Coastal Commission wetlands and permanent and temporary losses of USACE seasonal wetland, drainage ditch, and freshwater marsh habitats.	Before

TABLE 1
On-Site Wetland Mitigation Areas for LFOTRP (in bold type) and HBRP

MIT-3	2.26	Area contains existing salt marsh (SM-5) contiguous with RM-1 and MIT-1 and MIT-2	ENHANCE wetland by removing thickspike cordgrass, replace with native salt marsh species. Place under deed restriction. Together with MIT-4 and MIT5 mitigates temporary impacts to Coastal Commission wetland and seasonal wetland habitats.	Before
MIT-4	1.57	Area contains existing riparian wetlands vegetation (RM-1).	ENHANCE wetland by removing Spanish heather, pampas grass, replant with natives. Place under deed restriction. Together with REST-1, MIT-3 and MIT-5 mitigates temporary impacts to Coastal Commission wetlands.	Before
MIT-5	0.13	Area contains existing Coastal Commission wetland (CCW-10) that is surrounded by MIT-2	ENHANCE wetland by removing thickspike cordgrass and other exotics, replace with native wetland species that will grade into created wetlands on both sides. Place under deed restriction. Mitigates for temporary impacts to Coastal Commission (including USACE) wetlands from the SDPP.	Before
MIT-A	**0.20**	**Eastern border of the MIT-4 riparian wetlands area. Area currently is managed grassland.**	**ENHANCE wetland features by removal of exotics and replanting with riparian trees and shrubs. Remove ongoing disturbance and monitor for native regeneration.** **Place under deed restriction.**	**Before**
MIT-B	**0.29**	**Northern border of the MIT-3 salt marsh area. Area is currently managed grassland.**	**ENHANCE wetland features by removal of exotics and replanting with natives. Remove ongoing disturbance and monitor for native regeneration.** **Place under deed restriction.**	
Total	6.09			

3.1 Ecological Assessment of Mitigation Areas

The following section presents a summary of the ecological assessment of the proposed LFOTRP mitigation area, as well as the goals, objectives, and performance standards identified to meet the habitat compensation requirement.

MIT-A – 0.20 acres

MIT-A is a managed grassland with pockets of one-parameter California Coastal Commission wetlands found on the upland edge of a riparian wetland (MIT-4). Portions of the area may qualify as wetland based on a predominance of hydrophytic plants rated FAC, FACW or OBL. The remaining area contains a graveled and compacted roadbed with upland characteristics.

Vegetation: The vegetation present in this MIT-A includes some hydrophytic natives such as tufted hairgrass, but predominantly the wetland species include non-natives such as ryegrass, birds foot trefoil, or velvet grass. This area also includes upland plant associations of sweet vernal grass, filaree, and brome. The entire area is regularly mowed for access and security. The lower ¼ of the site is transitional to the riparian area with suppressed wetland species including slough sedge and willows.

Soils: This area, as with the rest of the PG&E property, is unmapped by modern soil surveys. It is likely that the boundary between Hookton and Bayside soils is found somewhere in this location with regard to Buhne Slough. The roadbed was abandoned as access to the PG&E facility, but retains the compacted impermeable surface.

Hydrology: Surface runoff is the source of hydrology for MIT-A. The reworking of the native soil in roadbed construction has resulted in an extremely shallow and seasonally perched water table. Seasonally high groundwater may be present in the lower ¼ section of the site.

Wildlife: Wildlife values are minimal due to current management. The low grass may have minimal value for foraging birds attracted to the adjacent riparian area. Northern red-legged frogs and Pacific tree frogs may cross this area between aquatic wetland habitats.

MIT-B – 0.29 Acres

MIT-B is a managed grassland that slopes gradually down to the edge of the salt marsh mitigation area MIT-3. The area is regularly mowed for access and security.

Vegetation: Regular seasonal mowing of the area has created a lawn dominated by birds foot trefoil, velvet grass, perennial ryegrass. The edge bordering the salt marsh has tufts of native hairgrass edge and other suppressed wetland species. Planted Monterey cypresses border the northern side of the area.

Soils: This area, as with the rest of the PG&E property, is unmapped by modern soil surveys. It is likely that the underlying soils are fill placed during construction of the Humboldt Bay Power Plant access road and parking areas. The fill encroaches on native salt marsh to the south.

Hydrology: Surface runoff is the source of hydrology for MIT-B. Seasonally and tidally influenced high groundwater may be present along the border with the salt marsh.

Wildlife: Wildlife values are minimal due to current management. The low grass may have minimal value for insectivorous or seed eating birds. Northern red-legged frogs and Pacific tree frogs may cross this area between aquatic wetland habitats.

3.1.2 Enhancement Mitigation Goals, Objectives, and Performance Standards

MIT-A The 0.031 acres of permanently impacted riparian wetlands and 0.035 acres of permanently impacted CCW managed grassland will be mitigated at ratio of 3.2:1 within MIT-A. MIT-A will be enhanced by planting willow or other appropriate riparian species listed in Table 2 in an effort to expand the riparian habitat (MIT-4) that abuts it to the south and west. The vision for this site is to create a transitional buffer from the existing riparian community to the managed grassland along a natural moisture gradient (Figure 4). Willow plantings will dominate the lower end of the site. The upper half of the site will contain individual shrubs or vines with the predominant plants being perennial herbs and grasses. These restoration goals will provide additional habitat for wildlife and favor the establishment of native plant species. Note: A 10-foot corridor between the mitigation areas and the HBPP security fence (outside the limits of MIT-A and MIT-B) will be continue to be mowed and managed to allow employee and security personnel to walk the perimeter fenceline (for security inspections and general HBPP access).

Goal 1: Restore vegetation to native plant species selected from the planting pallet (Table 2)

Objective 1: Restore native vegetation through willow and perennials planting, selective weeding and release from mowing

Performance Criterion 1: At least 70% absolute cover in native perennial hydrophytic plants.. This can be attained given the likelihood of wetland hydrology over the site and the strong clonal nature of the target plants.

Performance Criterion 2: At least 20% cover (1,830 sq ft.) in willow species in 5 years.

Performance Criterion 3: At least 20% cover (1,830 sq. ft) represented by at least 4 additional shrubs, trees, or vines from the planting pallet (table 2)..

Performance Criterion 4: At least 30% (2,745 sq. ft.) cover represented by at least 5 perennial herbs or grasses from the planting pallet (table 2)..

Performance Criterion 5: No invasive exotics or exotic shrubs or trees present.

Performance Criterion 6: Cover of non-invasive herbaceous exotics less than 30%

Goal 2: Improve Wildlife Habitat

Objective 1: Create nesting or escape cover

Performance Criterion 1: Qualitative observations of wildlife species use in the mitigation area comparable to that in the adjacent riparian area.

MIT-B The 0.244 acres of temporarily impacted CCW managed grassland will be mitigated at a ratio of 1.2:1 in MIT-B, an area north and immediately adjacent to the existing salt marsh (SM-5) of the Buhne Point Wetland Preserve. No planting will be performed in MIT-B, rather modifying management activities (stopping routine mowing) will allow native, hydrophytic vegetation to re-colonize naturally. Native wetland species associated with existing buffer habitat of the adjacent salt marsh, such as tufted hairgrass (*Deschampsia cespitosa*), common rush (*Juncus effusus*), Pacific potentilla (*Potentilla anserina* ssp. *pacifica*), western mannagrass (*Glyceria occidentalis*) and slough sedge (*Carex obnupta*) are expected to colonize this area fairly rapidly once mowing is stopped. The vision for this site is to be a transitional area of mixed perennial grasses and herbs between salt marsh and managed grasslands that will provide greater protection to downstream resources and improved wildlife habitat. Early adaptive management guided by vegetation monitoring will determine if natural colonization must be augmented by planting to meet performance criteria.

Goal 1: Restore vegetation to native plant species

Objective 1: Restore native vegetation through management changes, selective weed control, and replanting as needed from species listed on the planting pallet (Table 2).

Performance Criterion 1: At least 70% absolute cover represented by at least 8 native perennial hydrophytic herbs or grasses in 5 years.

Performance Criterion 2: No invasive exotics present after 5 years.

Performance Criterion 3: Cover of non-invasive exotics less than 30%

3.1.3 Concept drawings and design rationale:

Rational for enhancement of MIT-A and MIT-B lies in their proximity to the larger complex of wetland habitats in the Preserve that will be protected under a deed restriction. The location and extent of MIT-A and MIT-B present key areas for the extension of the Buhne Point Wetland Preserve habitats. The expansion of riparian habitat will be naturally transitional to saltmarsh and can be accomplished by the cessation of current landscape management, removal of weedy species, and selective replanting with natives. These communities will provide additional buffer to existing wetlands and a natural transition from upland managed areas.

3.1.4 Engineering plans

Minor surface work to break up the existing roadbed in MIT-A will be required. No engineering plans for this work will be prepared.

3.1.5 Comprehensive vegetation specifications

Initial monitoring of baseline vegetation will take place after current landscape maintenance is halted. Many suppressed native perennials and woody species are expected to naturally regenerate within these areas. The need for replacement plantings will be determined after baseline vegetation surveys are complete. Replacement plantings will consist of native perennial plants that match the soil and hydrologic setting of the replacement site.

If new shrub or tree plantings are recommended, plants will be locally collected and propagated. Plants known from the area and readily propagated that may be used in the revegetation of MIT-A and MIT-B are listed in Table 2

TABLE 2
Suggested Native Plant Species For Revegetation Plantings

Scientific Name	Common Name	Wetland Indicator	Growth Form
Riparian/Marsh			
Acer macrophyllum	big-leaf maple	FAC	Tree/shrub
Alnus rubra	Red alder	FACW	Tree/shrub
Carex obnupta	slough sedge	OBL	tall perennial herb
Carex praegracilis	clustered field sedge	FACW-	perennial herb
Lonicera involucrata	twinberry	FAC	shrub
Lupinus rivularis	riverbank lupine	FAC	perennial herb
Myrica californica	wax-myrtle	FAC+	shrub/tree
Picea sitchensis	Sitka spruce	FAC	Tree/shrub
Rubus spectabilis	salmon berry	FAC+	vine
Rubus ursinus	California blackberry	FAC+	vine
Salix hookeriana	coastal willow	FACW	Tree/shrub
Salix lucida ssp. lasiandra	shining willow	OBL	Tree/shrub
Scirpus maritimus	alkali bulrush	OBL	perennial herb
Scirpus microcarpus	small headed bulrush	OBL	perennial herb
Scirpus robustus	big bulrush	OBL	tall perennial herb
Typha latifolia	broadleaf cattail	OBL	tall perennial herb
One-Parameter Wetlands			
Aster chilensis	common California aster	FAC	perennial herb
Carex praegracilis	clustered field sedge	FACW-	perennial herb
Festuca rubra	red fescue	FAC	grass
Juncus patens	common rush	FAC	perennial herb
Lupinus rivularis	riverbank lupine	FAC	perennial herb

TABLE 2
Suggested Native Plant Species For Revegetation Plantings

Scientific Name	Common Name	Wetland Indicator	Growth Form
Seasonal Wetland			
Carex praegracilis	clustered field sedge	FACW-	perennial herb
Deschampsia cespitosa	tufted hair-grass	FACW	grass
Distichlis spicata	saltgrass	FACW	grass
Eleocharis macrostachya	common spikerush	OBL	perennial herb
Glyceria occidentalis	western mannagrass	OBL	grass
Hordeum brachyantherum	meadow barley	FACW	grass
Juncus bolanderi	Bolander's rush	OBL	perennial herb
Juncus effusus	common bog rush	FACW+	perennial herb
Juncus patens	common rush	FAC	perennial herb
Potentilla anserina ssp. pacifica	Pacific potentilla	OBL	perennial herb
Rumex occidentalis	Western dock	OBL	perennial herb
Scirpus robustus	big bulrush	OBL	tall perennial herb
Typha latifolia	broadleaf cattail	OBL	tall perennial herb
Drainage Swale/Ditch Wetlands			
Juncus effusus	common bog rush	FACW+	perennial herb
Mimulus guttatus	common yellow monkeyflower	FACW+	perennial herb
Picea sitchensis	Sitka spruce	FAC	Tree/shrub
Potentilla anserina ssp. pacifica	Pacific potentilla	OBL	perennial herb
Rubus spectabilis	salmon berry	FAC+	vine
Rubus ursinus	California blackberry	FAC+	vine
Rumex occidentalis	Western dock	OBL	perennial herb
Scirpus maritimus	alkali bulrush	OBL	perennial herb
Scirpus microcarpus	small headed bulrush	OBL	perennial herb
Salt Marsh Enhancement Species			
Deschampsia cespitosa	tufted hair-grass	FACW	grass
Distichlis spicata	saltgrass	FACW	grass
Salicornia virginica	pickleweed	OBL	perennial herb
Scirpus maritimus	alkali bulrush	OBL	perennial herb
Triglochin maritima	seaside arrow-grass	OBL	perennial herb

* OBL: Obligate wetland plant, occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW: Facultative wetland plant, usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
FAC: Facultative plant, Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU Facultative upland plant, usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
UPL: Obligate upland plant, Occurs in wetlands in another region, but occurs almost always (estimated probability 99%) under natural conditions in non-wetlands in the regions specified. If a species does not

TABLE 2
Suggested Native Plant Species For Revegetation Plantings

Scientific Name	Common Name	Wetland Indicator	Growth Form

occur in wetlands in any region, it is not on the National List.

3.1.6 Implementation Plan

Timing: Habitat restoration and enhancement at MIT-A and MIT-B will commence upon approval of the CDP either before or in conjunction with implementation of the LFOTRP.

Survey and treatment: Upon project approval, landscape maintenance in MIT-A and MIT-B will be halted. Scarification of the old roadbed in MIT-A will occur in conjunction with other earthwork associated with the project or with other mitigation implementation in the Buhne Point Wetlands Preserve.

Replanting with Natives: Where replanting with natives is prescribed, nursery stock from locally obtained material will be used. Plantings will occur during fall to early spring season. The roadbed in MIT-A will be replanted with natives during the first growing season after implementation.

Biological Monitoring: A qualified biologist will be on site during restoration activities to delineate exclusion zones near sensitive habitats and move wildlife such as Northern red-legged frog, Pacific tree frog, snakes, and others as necessary to minimize adverse affects to the local populations.

3.1.7 Additional Mitigation Measures

Silt/barrier fencing will be used along the boundary of the temporary access haul road and the fuel oil tank removal area to protect adjacent wetlands and riparian vegetation.

The clearing of riparian vegetation for development of the temporary access haul road will be conducted outside of the general nesting season for song birds and raptors that may utilize this habitat. If any brush clearing or tree removal needs to occur during the nesting season (April through July) a qualified biologist will conduct a site visit to determine if activities will affect any nesting birds. Avoidance and/or mitigation measures will be implemented through consultation with California Department of Fish and Game if a potential effect is identified.

3.1.8 Temporary Road Restoration

The temporary roadway will be maintained until October 2009 to insure adequate time to complete the LFOTRP. Upon completion of the project the roadway will be returned to pre-project casual use and allowed to revegetate with herbaceous species.

SECTION 4

Monitoring Program

The following field methods and study design will be used to quantify success criteria. Sampling will be done with sufficient replication to detect a difference in 5% percent absolute cover with 90% power with alpha=0.10. The average standard deviation (sd< 6.0) obtained from limited vegetation transect sampling at the LFO site was used to estimate the number of samples needed.

MIT-A

A minimum of 30 one-meter square plots representing 3.5% of the MIT-A study area will be used to estimate herbaceous cover.

Vegetation Responses: Cover, Diversity and Canopy Structure Plots

Measurement of herbaceous vegetative cover by species will be collected from sets of 1-meter square plots randomly established within three zones. The three zones are the restored roadbed, an herbaceous perennial zone, and a riparian shrub and tree planting zone. Each discrete area will be evaluated separately for herbaceous vegetation.

An overall list of all species found in the mitigation area will be compiled. Monitoring for weeds and regeneration of desired species will occur monthly for the first two years after mitigation implementation as part of routine construction monitoring. Vegetation cover and diversity plots will be permanently marked and sampled twice a year during April and October.

Willow, riparian shrub, and tree cover will be calculated by direct measurement of the canopy's major and minor radii using the formula for the area of an ellipse (πab).Tree height will be measured to monitor growth and demonstrate structural diversity Trees and shrubs will also be assigned a condition score of poor, fair, or good.

Final monitoring for success will be based on a second set of randomly placed samples . Performance criteria will be assessed for MIT-A as a whole.

MIT-B

A minimum of 30 one-meter square plots representing 2.5% of the MIT-B study area will be used to estimate herbaceous cover.

Vegetation Responses: Cover, Diversity and Canopy Structure Plots

Measurement of vegetative cover by species will be collected from sets of 1-meter square plots randomly established within zones of visually homogeneous vegetation in MIT-B.

An overall list of all species found in the mitigation area will be compiled. Monitoring for weeds and regeneration of desired species will occur monthly for the first two years after mitigation implementation as part of routine construction monitoring. Vegetation cover and

diversity plots will be permanently marked and sampled twice a year after during April and October.

Final monitoring for success will be based on a second set of randomly placed samples. The performance criteria will be assessed for MIT-B as a whole.

Response Variables and Success Criteria

Individual plant species observed during the sampling will be identified as native perennial hydrophytic based on Reed (1988) and Hickman (1993). For each zone, cover estimates for individual species will be averaged over all plots and compared to the target values. A one-tailed t-test with an alpha error of 0.1 will be applied to determine if the observed cover values fall within the target cover value. If the target cover value for native perennial hydrophytic herbs or shrubs is attained, the species will be included in the species count for meeting the diversity criteria.

The cover of all plants identified as native hydrophytes will be summed within each sample plot and then averaged across plots to assess the success criterion of greater than 70% cover. Final performance monitoring shall take place no sooner than three years after the end of all remediation and maintenance activities other than weeding.

If the final report indicates that the restoration project has not met the performance standards, the applicant shall submit a revised mitigation and monitoring plan within 90 days. The revised plan shall be processed as an amendment to the coastal development permit, unless the Executive Director finds that to be unnecessary

Wildlife: Habitat use surveys will be conducted that record direct and indirect (signs of scat, tracks, nests, feathers) observation of wildlife using the mitigation area. The wildlife surveys would be conducted four times per year, once per season, as part of the overall Buhne Point Wetland Preserve monitoring.

SECTION 5

Mitigation Implementation and Monitoring Timeline

Table 3 summarizes the timeline for implementing habitat restoration the monitoring schedule for each of the mitigation areas. All mitigation areas to be included in the Buhne Point Wetlands Preserve Mitigation and Monitoring Plan for the HBRP are included to provide a context for mitigation associated with the LFOTRP (**MIT-A and MIT-B in bold type**). Enhancement activities for MIT-A and MIT-B will be completed by October 31, 2009. PG&E will provide the Executive Director of the Coastal Commission with the final design plans of the mitigation areas by December 31, 2009. The monitoring of MIT-A and MIT-B is proposed for 5 years, during and following completion of the LFOTRP and HBRP.

A final monitoring report will be submitted to the Executive Director of the Coastal Commission at the end of the final performance monitoring period. Final performance monitoring will take place no sooner than three years after the end of all remediation and maintenance activities other than weeding. The report must evaluate whether the enhancement site conforms to the goals, objectives, and performance standards set forth in the approved final enhancement program.

If Executive Director of the Coastal Commission concludes that after 5 years, the restoration project has been unsuccessful, in part or in whole, based on the approved performance standards, PG&E shall submit within 90 days of the Executive Director's determination in the form of an amendment to this permit a revised mitigation plan to compensate for those portions of the original program which did not meet the approved performance standards.

TABLE 3
Timeline for Wetlands Mitigation and Monitoring

2008-2009	2008 Summer/Fall	2009 Winter	2009 Spring	2009 Summer
MIT-1 Wetland Creation	Remove Pampas Grass Monitor regeneration Conduct baseline wildlife surveys	Monitor weeds, monitor hydrology and colonization of native species bimonthly for 4 months Conduct baseline wildlife surveys	Monitor weeds Conduct baseline wildlife surveys	Monitor weeds Conduct baseline wildlife surveys
MIT-2 Wetland Creation	Native Plant Salvage Install downstream BMPs. Grade site before rains Sample soils/amendments? Monitor hydrology and salinity Monitor Natural Colonization Control Weeds Conduct wildlife use survey	Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Prescribe Planting/seeding Conduct wildlife use survey	Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Plant Nursery Stock Conduct wildlife use survey	Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Monitor Nursery Stock Conduct wildlife use survey
MIT-3 Salt Marsh	Remove Disperse Cordgrass Plant Nursery Stock Conduct wildlife use survey	Mow Dense Cordgrass Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Cover Dense Cordgrass Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Maintain Cordgrass Cover Monitor weeds Monitor Reveg Survival Conduct wildlife use survey
MIT-4 Riparian	Mark and Remove Exotics Plant Nursery Stock Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey
MIT-5 CCC Wetlands	Mark and Remove Exotics Plant Nursery Stock Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey
REST-1 Access Road	BioSwale: Install downstream BMPs. Grade bioswale Monitor hydrology and salinity Plant tufted hair grass Conduct wildlife use survey	BioSwale: Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Monitor Nursery Stock Conduct wildlife use survey	BioSwale: Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Monitor Nursery Stock Conduct wildlife use survey	BioSwale: Maintain BMPs Monitor hydrology and salinity Monitor natural colonization Monitor weeds Monitor Nursery Stock Conduct wildlife use survey

TABLE 3
Timeline for Wetlands Mitigation and Monitoring

2008-2009	2008 Summer/Fall	2009 Winter	2009 Spring	2009 Summer
MIT-A	**Stop Landscape Maintenances**	**Monitor weeds**	**Conduct Baseline vegetation survey**	**Monitor weeds**
Riparian	**Mark and Remove Exotics**	**Conduct wildlife use survey**	**Order Nursery stock as needed**	**Conduct wildlife use survey**
	Scarify roadbed, seed or plant with natives		**Conduct wildlife use survey**	
	Conduct wildlife use survey			
MIT-B	**Stop Landscape Maintenances**	**Monitor weeds**	**Conduct Baseline vegetation survey**	**Monitor weeds**
Perennial grassland	**Mark and Remove Exotics**		**Order nursery stock as needed**	**Conduct wildlife use survey**
	Conduct wildlife use survey		**Conduct wildlife use survey**	
First Monitoring Report Due Winter 2008 – Describe As-Built Conditions				

2009-2010	2009 Fall	2010 Winter	2010 Spring	2010 Summer
MIT-1 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-2 Wetland Creation	Maintain BMPs Monitor weeds Establish vegetation sampling Sample vegetation Conduct wildlife use survey	Maintain BMPs Monitor weeds Conduct wildlife use survey	Maintain BMPs Sample Vegetation Monitor hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-3 Salt Marsh	Maintain Cordgrass Cover Monitor weeds Establish vegetation sampling Sample Vegetation by zone Conduct wildlife use survey	Maintain Cordgrass Cover Monitor weeds Order Nursery Grown Natives Conduct wildlife use survey	Uncover cordgrass Plant Native Nursery Stock Monitor weeds Sample vegetation by zone Conduct wildlife use survey	Monitor weeds Monitor Nursery Stock Conduct wildlife use survey
MIT-4 Riparian	Monitor weeds Monitor nursery stock Establish vegetation sampling Sample vegetation Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Monitor nursery stock Sample vegetation Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-5 CCC Wetlands	Monitor weeds Monitor Reveg Survival Establish vegetation sampling Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Monitor Reveg Survival Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-A **Riparian**	**Sample Vegetation** **Plant Nursery stock as prescribed** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**
MIT-B **Perennial grassland**	**Sample Vegetation** **Plant Nursery stock as prescribed** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample vegetation** **Conduct wildlife use survey**	**Monitor weeds.** **Conduct wildlife use survey**
LFO Access Road	**Restore temporary roadway** **Assess seeding/planting needs**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**
Second Monitoring Report Due Winter 2010 – Assess Performance Criteria				

2010-2011	2010 Fall	2011 Winter	2011 Spring	2011 Summer
MIT-1 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-2 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-3 Salt Marsh	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-4 Riparian	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-5 CCC Wetlands	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-A **Riparian**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**
MIT-B **Perennial grassland**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample vegetation** **Conduct wildlife use survey**	**Monitor weeds.** **Conduct wildlife use survey**
LFO Access Road	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**
Third Monitoring Report Due Winter 2011—Assess Performance Criteria/ Need for Remediation				

2011-2012	2011 Fall	2012 Winter	2012 Spring	2012 Summer
MIT-1 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-2 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-3 Salt Marsh	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-4 Riparian	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-5 CCC Wetlands	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-A **Riparian**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**
MIT-B **Perennial grassland**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample vegetation** **Conduct wildlife use survey**	**Monitor weeds.** **Conduct wildlife use survey**
LFO Access Road	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**
Fourth Monitoring Report Due Winter 2012—Assess Performance Criteria/ Need for Remediation				

2012-2013	2012 Fall	2013 Winter	2013 Spring	2013 Summer
MIT-1 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-2 Wetland Creation	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-3 Salt Marsh	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-4 Riparian	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-5 CCC Wetlands	Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey	Sample Vegetation Monitor Hydrology Monitor weeds Conduct wildlife use survey	Monitor weeds Conduct wildlife use survey
MIT-A **Riparian**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**
MIT-B **Perennial grassland**	**Sample Vegetation** **Conduct wildlife use survey**	**Monitor weeds** **Conduct wildlife use survey**	**Sample vegetation** **Conduct wildlife use survey**	**Monitor weeds.** **Conduct wildlife use survey**
LFO Access Road	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**	**Monitor recolonization,** **Control weeds.**
Fifth Monitoring Report Due Winter 2013 – Assess Performance Criteria/ Need for Remediation				

SECTION 6

Remedial Action Plan

If monitoring results suggest that appropriate native riparian or perennial herbaceous vegetation is not becoming established according to specific success criteria outlined in the final mitigation plan, remediation measures will be assessed and implemented. These measures may include soil amendments in the reclaimed road in MIT-A, planting or replanting of target species, and/or additional weed treatments.

Adaptive management of MIT-A and MIT-B will be used during the monitoring period. Adaptive management for this plan is broadly defined as a method for examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future management actions according to what is learned. The adaptive strategies will be derived from the results of annual monitoring and additional knowledge gained from external sources regarding the management of riparian and native grassland habitats.

No single management strategy has been developed for wetland habitats. The Buhne Point Wetlands Preserve will be subject to a complex and variable set of environmental factors. Therefore, the success of the mitigation will rely on the allowance for adaptive management. The expected variables will likely include but are not limited to 1) annual fluctuating hydrologic conditions, 2) annual fluctuating weather conditions, 3) the viability of plantings, and 4) invasion of noxious weeds. The management strategies will be reevaluated by the biologist in charge, PG&E, CEC (for HBRP), CCC, and USACE on an annual basis or as necessary.

SECTION 7

Operations and Maintenance Plan

PG&E will record a legal deed restriction over mitigation areas MIT-1 through MIT-5 and MIT-A and MIT-B, which collectively will be known as the Buhne Point Wetlands Preserve prior to project construction. After mitigation success criteria are met, PG&E will be responsible for the upkeep and maintenance of the mitigation site. These responsibilities will include keeping the site free of litter, major infestations of noxious weeds, and populations of feral animals including cats, domestic ducks, or other escaped or released pets or farm animals, and protect against unlawful trespass. Protection of the Preserve will be addressed during any proposed land use changes on adjoining PG&E property that may result in detrimental changes in site hydrology or vegetation. Public access to the site will be allowed for scientific research or educational or artistic uses and will be facilitated by PG&E for all legitimate written requests. The status of the site including any maintenance actions taken over the year will be included as part of the annual monitoring report that will be submitted to the California Energy Commission (CEC) (for HBRP), USACE, and California Coastal Commission.

SECTION 8

References

Ayres, Tina 2000 Invasive Weeds of Humboldt County, a Guide for Concerned Citizens U.S. Bureau of Land Management, Bug Press, August 2000

California Coastal Commission (CCC). 1994. Procedural guidance for the review of wetland projects in California's coastal zone. Available electronically at (http://www.coastal.ca.gov/wetrev/wettitle.html).

CH2M HILL. November 2006. Delineation of wetlands and Waters of the U.S. Humboldt Bay Repowering Project, Humboldt County, California. Draft report prepared for Pacific Gas and Electric Company, San Francisco, CA.

Dains, Virgina and CH2M HILL. June 2007. Buhne Point wetlands preserve mitigation and monitoring plan for Humboldt Bay Repowering Project, Humboldt County, California. Draft report prepared for Pacific Gas and Electric Company, San Francisco, CA.

Ehrlich, Paul, Dobkin, David, Wheye, Darryl. 1988. The Birder's Handbook, A Field Guide to the Natural History of North American Birds. Simon and Schuster, Inc. New York.

Martin, Alexander, Zim, Herbert, Nelson, Arnold. 1961. American Wildlife and Plants A Guide To Wildlife Food Habitats, The use of trees, shrubs, weeds and herbs by birds and mammals of the United States. Dover Publications, Inc. New York.

McLaughlin, James and Frank Harradine 1965 Soils of Western Humboldt County California. Department of Soils and Plant nutrition University of California, Davis in cooperation with County of Humboldt, California. November 1965.

PG&E 1983 Intake Channel Dredging Document, Internal PG&E document summarizing events and actions taken in 1983 to open the King Salmon Fisherman's channel by dredging after it had been blocked by beach erosion, temporary and final disposition of the dredge spoils.

Reed, P.B. 1988 National list of plant species that occur in wetlands: California (Region 0). (Biological Report 88 [26-10]). U.S. Fish and Wildlife Service. St. Petersburg, FL.