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Filed:	3/27/14
180th Day:	9/26/14
Staff:	T. Luster-SF
Staff Report:	3/27/14
Hearing Date:	4/10/14

STAFF REPORT: REGULAR CALENDAR

Application No.:	**9-14-0563**
Applicant:	**Pacific Gas and Electric Company**
Location:	Multiple locations between the cities of Loleta and Arcata, including along the Humboldt Bay shoreline, County of Humboldt.
Project Description:	Hydrostatic testing of three natural gas pipelines.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Pacific Gas and Electric Company (PG&E) proposes to conduct hydrostatic testing of three natural gas pipelines in central coastal Humboldt County. The tests are required to ensure public safety and safe pipeline operations. The tests' main steps involve isolating a length of pipeline from the rest of the pipeline system, removing the natural gas, pumping in water, and pressurizing it above the pipeline's operating pressures to determine whether there are any leaks or weak spots needing repair. The test on each pipeline, from mobilization and site preparation to demobilization, is expected to take no more than two months. PG&E plans to conduct the tests between May and October 2014.

The work will take place at several dozen locations along the three pipelines, 21 of which are within the coastal zone, including within the Commission's retained jurisdiction and the certified Local Coastal Program jurisdiction of the County of Humboldt and the City of Arcata. PG&E, the County, and the City have agreed to seek consolidated permit review of this project, pursuant to Coastal Act Section 30601.3.

The key Coastal Act issues raised by this project are its expected or potential impacts to biological resources, including wetlands, sensitive species, and coastal water quality. Several of the work sites are in or near coastal wetlands, most of which are in developed or disturbed areas. The project's impacts to wetlands are unavoidable, due to the need for PG&E to conduct the tests and mobilize equipment at specific locations along the pipelines that are within or near wetlands. PG&E has incorporated a number of measures into its project description that will avoid and minimize many of the potential adverse effects; however, additional measures are needed to allow Coastal Act consistency. These include **Special Condition 1**, which requires PG&E to submit, for Executive Director review and approval, a modified Avoidance and Minimization Measures plan that includes the names and qualifications of biologists that will implement many of the project mitigation measures and improves the implementation of surveys to identify nearby sensitive plant species and active bird nests. Similarly, **Special Condition 2** requires PG&E to submit an updated wetland restoration plan that provides pre- and post-disturbance surveys and monitoring and ensures that any temporary or long-term adverse wetland effects are mitigated. To ensure adequate water quality protection, **Special Condition 3** requires submittal of a Stormwater Pollution Prevention Plan (SWPPP) and **Special Condition 4** requires submittal of a Spill Prevention, Control, and Response Plan.

With the proposed Special Conditions, staff recommends the Commission **approve** coastal development permit application 9-14-0563.

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APPENDICES

Appendix A – Substantive File Documents

TABLES

Table 1 – Extent of Adverse Effects on Wetlands

EXHIBITS

Exhibit 1 – Project Location
Exhibit 2a – Pipeline Location T-236-13
Exhibit 2b – Pipeline Location T-325-14
Exhibit 2c – Pipeline Location T-326-14
Exhibit 3 – PG&E Fact Sheet on Hydrostatic Tests
Exhibit 4 – PG&E's proposed Avoidance and Minimization Measures
Exhibit 5 – Exhibit California Department of Fish and Game, *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, November 24, 2009.
Exhibit 6 – Restoration of Temporarily Disturbed Areas and Mitigation

I. MOTION AND RESOLUTION

Motion

*I move that the Commission **approve** Coastal Development Permit 9-14-0563 subject to the conditions set forth in the staff recommendation.*

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

Resolution

The Commission hereby approves Coastal Development Permit 9-14-0563 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.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee 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.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Modified Avoidance and Mitigation Measures.** PRIOR TO CONSTRUCTION, PG&E shall submit, for Executive Director review and approval, a revised Avoidance and Mitigation Measures (AMMs) document that is consistent with its AMMs dated March 2014, except with the revisions identified below. PG&E shall implement the AMMs as approved by the Executive Director.

    a. **Approved Biological Monitor(s):** PG&E shall submit names of qualified biologists to implement the surveys, monitoring, and mitigation measures identified in the AMMs. The submittal shall include the qualifications and the proposed role of each biologist in implementing the relevant AMMs.

    b. **Protecting Sensitive Vegetation:** PG&E shall submit a description of the vegetation survey methods it will implement to identify special status species that may be affected by project activities. The proposed survey methods shall be consistent with protocols of the November 24, 2009 California Department of Fish and Game *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, except as modified below:
        i. The biologists will conduct the surveys prior to any ground disturbing activities at each work location and when the sensitive species that are known or expected to occur at each location are identifiable.
        ii. The biologists will identify the type and location of any identified sensitive species and will note the locations on a detailed map that shows their location in relation to the areas to be affected by project activities.
        iii. Based on survey results, the biologists will also recommend any modifications at each of the project's proposed work locations that will avoid or minimize potential adverse effects to identified sensitive vegetation species (e.g., relocating or shifting the location of accessways, staging areas, etc.).
        iv. PG&E shall submit, for Executive Director review and approval, the survey results, the biologists' recommendations, and any proposed work location modifications that will avoid or minimize adverse effects to these species.

    c. **Avoiding Adverse Effects to Active Bird Nests.** For project activities scheduled to occur between February 1 and August 31, the approved biologists shall conduct nesting bird surveys to determine the presence of nests or nesting birds near the project work locations. The nesting bird surveys shall be completed no more than 72 hours prior to activities at each work location. Results of each survey shall be made available to the Executive Director upon request.

    If project activities are to occur within 500 feet of an active raptor nest or within 300 feet of any other active nest, PG&E shall submit a noise report from a certified acoustician to the Executive Director to document the noise levels at those nest sites that would result from project activities. If the report indicates noise from project activities will exceed 60 dBA Leq(h) or ambient noise levels (whichever is greater) at

active nests, the report shall identify what measures PG&E will implement to attenuate project-generated noise to below that level at the active nest sites (e.g., use of sound blankets, reduced engine operations, noise suppression devices, etc.). The report shall also describe the expected level of sound attenuation resulting from those measures and the basis for that expected level of attenuation. If, with those measures, project activities would still exceed the allowable noise levels at the active nest site, project activities shall be deferred at that location until the biological monitors determine that the nest is no longer active.

d. **Relocating Sensitive Animal Species:** The biologists shall survey each work location within 24 hours of the start of ground disturbance and shall relocate any red-legged frogs (*Rana aurora*) or western box turtles (*Clemmys marmorata*) to suitable nearby habitat. The biological monitors shall inform project personnel at each location about the presence of the species and shall provide guidance on avoiding further adverse effects on those species.

2. Avoiding, Minimizing, and Mitigating Wetland Impacts. PRIOR TO THE START OF CONSTRUCTION, PG&E shall submit, for Executive Director review and approval, a revised *Restoration of Temporarily Disturbed Areas and Mitigation* Plan that is consistent with the submitted document dated March 2014, but with the following modifications:

a. The modified Plan shall describe the existing condition of wetland areas at all work sites that will be affected by project activities. The description is to include the percent cover of vegetation within those areas, the types of species, and the location of any Special Status vegetation identified in the vegetation survey conducted pursuant to **Special Condition 1** of this permit.

b. No more than 30 days after each of the three planned post-disturbance site visits (fall of 2014, spring of 2015, and summer of 2015), PG&E shall submit for Executive Director review the results of monitoring conducted during those site visits. The results shall provide a comparison of pre-project and post-project conditions, including percent cover of vegetation, and the overall condition of vegetation that was covered or affected during project activities. The results shall also identify any impacts to wetlands that are likely to be more than temporary – e.g., changes in hydrology, loss of soil, etc.

c. If restoration criteria are not met after the third site visit, or if there are long-term effects that remain after the third site visit, PG&E shall submit a supplemental wetland restoration plan within 90 days for Executive Director review and approval. The supplemental plan shall identify proposed measures to ensure that all wetland areas with remaining temporary impacts (i.e., reduced vegetative cover) are revegetated with appropriate native plants at a ratio of at least 1:1 and that all wetland areas with long-term impacts are mitigated at a ratio of at least 4:1. This plan shall also describe the monitoring to be conducted to ensure mitigation success is achieved.

PG&E shall implement the Plan as approved by the Executive Director.

3. **Stormwater Pollution Prevention Plan.** PRIOR TO THE START OF CONSTRUCTION, PG&E shall submit a Stormwater Pollution Prevention Plan (SWPPP) to the Executive Director for review and approval. This SWPPP shall identify measures meant to stabilize soil in graded areas and to reduce erosion including, but not limited to, silt fences, fiber rolls, street sweeping and vacuuming, storm drain inlet protection, stockpile and solid waste management, vehicle and equipment maintenance, desilting basins, berms and barriers, mulching, seeding or other measures. The SWPPP shall also ensure that such measures are located, installed, and maintained in a manner that minimizes their effects on nearby wetlands to the extent feasible. The SWPPP shall also include a hazardous substance management plan that identifies handling, storage, disposal and emergency response procedures related to any hazardous waste that may be generated or identified during project activities. PG&E shall implement the SWPPP as approved by the Executive Director.

4. **Spill Prevention, Control, and Response Plan.** PRIOR TO CONSTRUCTION, PG&E shall submit a Spill Prevention, Control, and Response Plan to the Executive Director for review and approval. This Plan shall describe all measures PG&E will implement to prevent spills of fuel from vehicles and to respond to spills should they occur. The Plan shall identify the maximum possible spills that could occur, based on the capacities of vehicles and equipment used for project activities at each work site and shall identify the cleanup equipment that will be immediately available should such spills occur. The Plan shall also identify any nearby wetlands, coastal waters, drainages, and sensitive habitat areas and shall identify focused efforts PG&E will implement to prevent any spills from affecting those areas. The Plan shall also demonstrate that adequate equipment, personnel and protocols are in place to address the spill quickly and effectively, and shall include notification procedures to local spill responders. PG&E shall implement the Plan as approved by the Executive Director.

IV. FINDINGS AND DECLARATION

A. PROJECT DESCRIPTION

Pacific Gas and Electric Company (PG&E) proposes to conduct hydrostatic testing of three natural gas pipelines located between the cities of Loleta and Arcata in Humboldt County (see Exhibit 1 – Project Location). The pipelines have conveyed natural gas to much of the central coastal region of Humboldt County since PG&E first installed them between 1941 and 1958.

The three pipelines to be tested (see Exhibits 2a, 2b, and 2c – Pipeline Locations) are:

- **T-236-13:** approximately 7.37 miles long between the cities of Eureka and Arcata.
- **T-325-14:** approximately 10.51 miles long between the cities of Loleta and Eureka.
- **T-326-14:** approximately 10.57 miles long between the cities of Loleta and Eureka.

PG&E conducts hydrostatic testing to test the strength of its pipelines and to ensure they are operating within safe limits (see Exhibit 3 – PG&E Fact Sheet). The test involves first isolating a length of pipeline from adjacent sections of the pipeline sections and removing the natural gas from that section. The pipeline is filled with water and then slowly pressurized to above the pipeline's designated maximum operating pressure, which allows PG&E to identify any leaks or

weaknesses in the pipeline. At some locations, PG&E will install temporary bypasses around valves or high-pressure regulators, and will also replace several existing valves, vaults, and other equipment, or temporarily remove some equipment from the pipelines to allow "pigging," which consists of running equipment and instruments through the pipeline to clean it and to conduct initial testing. Water used in the tests will be potable municipal water that PG&E will either obtain from nearby hydrants or will truck in from municipal water sources. When testing is complete, PG&E will pump out the water and either discharge it directly to a sanitary sewer system or pump it into water tanks that will then be trucked offsite for disposal into a sanitary sewer system. The pipeline is then dried using compressed air or a drying device and reconnected. Based on test results, PG&E may then put the pipeline back into service or may identify the need to repair or replace sections of the pipeline. Repairs or replacement may require subsequent permit review and approval, depending on the location and extent of proposed activities.

PG&E conducts these tests from specific locations along the pipeline routes that allow access to within the pipelines, such as regulator stations or bell holes. Some of the project work locations will be at sites where PG&E must remove the fixtures that prevent pigging. Because the pipelines are mostly below grade, many of the work locations will require some amount of excavation. The area to be excavated and backfilled at each location ranges from about 40 to 600 square feet, with a total excavation volume of about 1,360 cubic yards for all three tests.

Most of the work locations are within developed or disturbed sites, such as parking lots, paved or landscaped areas, or road rights-of-way, though several include areas that are Commission-jurisdictional wetlands. Because the test equipment must be sited and operated close to the pipeline, work at several of these locations will involve unavoidable disturbance to wetlands. The wetland impacts at each site range from a few square feet to just under two acres, with a total area of about 3.78 acres for all three pipelines. Most of these effects are expected to be temporary. These impacts and related mitigation measures are described in detail in Section D below.

Each of the three pipeline tests is expected to take about two months from initial mobilization to initial site restoration. PG&E plans to conduct the tests starting in mid-May 2014 and ending by mid-October 2014. Some of the work in or near road rights-of-ways will require temporary traffic controls.

B. COASTAL COMMISSION JURISDICTION AND STANDARD OF REVIEW

Consolidated Permit Review: Some of the work locations are entirely outside of the coastal zone; however, portions of the proposed project are within the Coastal Commission's retained jurisdiction or within the certified LCP jurisdictions of the County of Humboldt and the City of Arcata. Within the Commission's jurisdiction are all of the work locations for Pipeline T-236-13, five of the work locations (Locations F, G, L, M, and N) for Pipeline T-325-14, and three of the work locations (Locations B, K, and L) for Pipeline T-326-14. Work locations within the County's LCP jurisdiction are Location J on Pipeline T-236-13, Locations F, G, L, and M on Pipeline T-325-14, and Locations K and L on Pipeline T-326-14. Work locations within the City's LCP jurisdiction are Locations B and O on Pipeline T-236-13.

Section 30601.3 of the Coastal Act provides that when a project requires a coastal development permit from one or more local governments with certified Local Coastal Programs and from the Coastal Commission, a single, consolidated coastal development permit for the entire project may be processed by the Commission if the applicant and local government agree to that process.[1] That section provides that the Coastal Act Chapter 3 policies serve as the legal standard of review, with certified LCPs serving as guidance. The City of Arcata agreed to a consolidated permit process on March 19, 2014, and the County provided its concurrence on March 20, 2014.

C. OTHER AGENCY APPROVALS

North Coast Regional Water Quality Control Board
PG&E has applied for a 401 Water Quality Certification from the Regional Board. Work activities will also be subject to the California Stormwater Construction General Permit and an associated Stormwater Pollution Prevention Plan (SWPPP).

United States Army Corps of Engineers
PG&E expects the project to be covered under Corps Nationwide Permit 12, which allows for utility line maintenance and repair that does not result in the loss of more than 0.5 acres of wetlands. Commission approval of this coastal development permit serves as the consistency certification for this project.

[1] Coastal Act Section 30601.3 states:

> *"(a) Notwithstanding Section 30519, the commission may process and act upon a consolidated coastal development permit application if both of the following criteria are satisfied:*
> *(1) A proposed project requires a coastal development permit from both a local government with a certified local coastal program and the commission.*
> *(2) The applicant, the appropriate local government, and the commission, which may agree through its executive director, consent to consolidate the permit action, provided that public participation is not substantially impaired by that review consolidation.*
> *(b) The standard of review for a consolidated coastal development permit application submitted pursuant to subdivision (a) shall follow Chapter 3 (commencing with Section 30200), with the appropriate local coastal program used as guidance.*
> *(c) The application fee for a consolidated coastal development permit shall be determined by reference to the commission's permit fee schedule.*
> *(d) To implement this section, the commission may adopt guidelines, in the same manner as interpretive guidelines adopted pursuant to paragraph (3) of subdivision (a) of Section 30620."*

D. PROTECTION OF COASTAL WETLANDS AND SENSITIVE HABITAT

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.*

Coastal Act Section 30233(a) states, in relevant part:

> *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
> …
> *(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*

Section 30240 of the Coastal Act states:

> *a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

As noted previously, most of the project work locations are in already developed or disturbed areas such as paved or graveled areas, landscaped areas, or active pastures. However, some will be near coastal waters, including several close to the shoreline of Humboldt Bay. A number are in or adjacent to wetlands or habitat that may contain listed sensitive plant or animal species. Project activities therefore have the potential to result in erosion and sedimentation that could degrade nearby water quality, cause adverse effects to wetland areas, and adversely affect protected species and their habitats.

Wetlands and Sensitive Species

Of the 21 work locations within the coastal zone, 14 will involve direct impacts to Commission-jurisdictional wetlands. Most of these wetlands are relatively low-quality – e.g., pasture/grassland areas that meet the Commission's vegetation parameter for wetlands, or disturbed areas located on fill that support wetland vegetation species. For the most part, the project is expected to cause only temporary impacts to these wetland areas, primarily due to removal or crushing of vegetation and possible soil compaction. Nonetheless, these areas may provide habitat for listed plant or animal species. Table 1 below summarizes the extent of excavation and areas of ground disturbance within Commission-jurisdictional wetlands, and the total temporary and permanent wetland impacts expected from project activities within the coastal zone.

Table 1 – Extent of Adverse Effects on Wetlands

Work Location	Area of Excavation in Wetlands (in square feet/acres)	Area of Wetland Disturbance (in acres)	Wetland Type
Pipeline T-236-13:			
C	87 / 0.002	0.06	Pasture / wet grassland
D	218 / 0.005	0.31	Pasture / wet grassland
G	64 / 0.001	0.28	Pasture / invasive shrub
H	64 / 0.001	0.001	Pasture / invasive shrub
I	436 / 0.01	0.17	Pasture
L	64 / 0.001	0.07	Swale
M	392 / 0.009	0.08	Wet grassland
O	0	0.05	Swale
P	0	1.95	Former mill parking area on fill
Pipeline T-325-14			
F	610 / 0.014	0.31	Pasture/ grassland / seasonal
L	64 / 0.001	0.31	Pasture wetland
M	0	0.08	Pasture wetland
N	64 / 0.001	0.005	Seasonal
Pipeline T-326-14			
B	64 / 0.001	0.005	Seasonal
Totals:	**2047 sq. ft. / 0.047 acres**	**3.68 acres**	

In addition, PG&E has identified the potential for at least two listed sensitive animal species at or near some of the work sites, including the threatened Northern red-legged frog (*Rana aurora*) and the western pond turtle (*Clemmys marmorata*). Some sites have nearby potential nesting habitat for sensitive bird species. Although the presence of listed vegetation species is unlikely due to the degree of disturbance, potential habitat exists for several sensitive species, including Lyngbye's sedge (*Carex lyngbyei*), and others that exhibit some level of tolerance for the

disturbed conditions found near some of the work sites. These include Howell's montia (*Montia howellii*), Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*), and Coast sidalcea (*Sidalcea oregano* ssp. *eximia*). Others that have an unlikely, but possible potential for occurrence include Northern clustered sedge (*Carex arcta*), bristle-stalked sedge (*Carex leptalea*), northern meadow sedge (*Carex praticola*), marsh pea (*Lathyrus palustris*), alpine marsh violet (*Viola palustris*), coast fawn lily (*Erythronium revoltum*), and Pacific gillia (*Gillia capitata* ssp. *pacifica*).

Conformity to Sections 30233(a) and 30240(b)

Regarding wetlands, Coastal Act Section 30233(a) requires a project that includes fill of wetlands to meet three tests. The first test requires that the proposed activity must fit into one of seven categories of uses enumerated in Coastal Act Section 30233(a). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects. Regarding sensitive habitat, as noted above, some of the work locations are adjacent to areas of sensitive habitat, and Section 30240(b) requires that activities be designed to prevent impacts that would significantly degrade those areas and that they allow continuance of those habitat areas. The three tests to determine conformity to Section 30233(a) are applied below.

1) **Allowable Use Test:** The Coastal Act allows fill and dredging in wetlands for any of seven allowable use categories. PG&E is conducting the tests to maintain its existing pipelines for public safety purposes, a category of activities that fall within Coastal Act Section 30233(a)(4), which allows for "incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines." The Commission therefore finds that the proposed project meets the allowable use test of Section 30233(a).

2) **Alternatives Test:** Pursuant to Section 30233(a), the Commission must additionally find that there are no feasible less environmentally damaging alternatives to the proposed fill or dredging in wetlands. There are no feasible alternative non-wetland locations where PG&E could do the necessary tests, since the pipelines are in place and the tests must be conducted at specific locations along the pipelines where wetlands exist. Additionally, the test equipment must be located close to those locations, which, for several of the work sites, means that the equipment would be within the wetland areas. Regarding the "no action" alternative, the proposed tests are required to ensure public health and safety, and if PG&E was unable to conduct the necessary tests, it would be required to cease pipeline operations. PG&E would then likely need to construct new infrastructure to deliver natural gas to the area, which could involve significantly greater adverse environmental effects than are expected to result from the proposed project. This could also result in disruption of natural gas deliveries to the area during the period between when existing pipelines would have to be shut down and when new pipelines were put into service. The Commission therefore finds that that there are no feasible, less damaging alternatives to the proposed dredging and filling of wetlands.

3) Mitigation to the Extent Feasible Test: The final test of Coastal Act Section 30233(a) is that filling and dredging of wetlands may be permitted if feasible mitigation has been provided to minimize any adverse environmental effects. A number of mitigation measures are also necessary to ensure conformity with the protections required by Coastal Act Sections 30231 and 30240(b).

Avoidance and Mitigation Measures: Mitigation generally consists of a sequence of measures that first allow *avoidance* of impacts, then *minimization* of impacts, and finally, measures that *compensate* for any remaining impacts. As noted above, PG&E cannot completely avoid affecting these wetland locations. To address the expected impacts, PG&E has proposed a series of Avoidance and Minimization Measures ("AMMs" – see Exhibit 4) that will mitigate for many of the potential adverse effects to wetlands and will additionally protect nearby habitat of sensitive species. Several of the AMMs apply to all project activities and some apply to specific project work locations, based on their proximity to certain types of wetlands or the potential for particular sensitive species in nearby habitat. The proposed AMMs address a variety of issue areas, including requiring employee education regarding sensitive species, conducting nesting surveys, implementing erosion control measures, and others. For example, PG&E will provide training to project personnel on how to identify and avoid sensitive species. It will also install exclusion fencing to separate needed work areas from nearby wetlands that can be avoided during project activities. It will lay down geotextile mats or similar buffering materials to reduce the potential impacts on wetland vegetation and soils. In areas where it must excavate within wetlands, PG&E will stockpile the topsoil to backfill those areas when the tests are complete.

To further ensure potential impacts are mitigated as required by Section 30233(a), **Special Condition 1** requires PG&E to modify its proposed AMMs to include the following:

- ***Survey and avoidance of sensitive vegetation:*** PG&E has proposed using accepted California Department of Fish and Wildlife protocols to survey sensitive vegetation (see Exhibit 5). **Special Condition 1** requires PG&E to also submit the names and qualifications of biologists proposed to conduct those surveys, to implement those surveys prior to ground disturbance and during times when the known or expected species are identifiable, and to modify its work locations as feasible to avoid or minimize effects on any identified species.
- ***Nesting surveys:*** In addition to PG&E's proposed nesting survey protocols, **Special Condition 1** requires PG&E to identify expected project-generated noise levels at nearby identified active nest sites and to identify mitigation measures that will reduce those noise levels to levels protective of the nesting birds.
- ***Relocation of sensitive animal species:*** **Special Condition 1** also requires the project biologists to survey project sites within 24 hours of the start of ground disturbance and to relocate sensitive species that may be in the area to nearby suitable habitat.

Restoration of Wetland Areas: Along with measures included in the AMMs, PG&E has proposed additional measures to restore wetland areas adversely affected by project activities (see Exhibit 6 – Restoration of Temporarily Disturbed Areas and Mitigation). Key components of the restoration measures include stabilizing and reseeding areas degraded due to project activities after tests are completed at the various sites, and conducting monitoring to determine whether the affected sites recover within no less than a year after being disturbed.

To ensure conformity to Section 30233(a), **Special Condition 2** requires PG&E to submit a modified restoration plan that includes additional feasible mitigation measures. It requires PG&E to conduct a pre- and post-disturbance comparison of the vegetative cover at project locations and to identify during each of three post-disturbance site visits both the temporary adverse effects of the project and any long-term adverse effects, such as soil compaction or changes in hydrology at the sites. **Special Condition 2** also requires PG&E to provide 1:1 mitigation for temporary impacts and 4:1 mitigation for long-term effects.

With the inclusion of **Special Conditions 1** and **2**, the Commission finds that the third test of Coastal Act section 30233(a) has been met and that the project is consistent with Coastal Act Section 30240(b).

E. PROTECTION OF COASTAL WATERS AND SPILL PREVENTION AND RESPONSE

Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

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.

Section 30232 of the Coastal Act 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.*

Some of the project work areas are close to open coastal waters, including several locations near the shoreline of Humboldt Bay. Excavation, the use of fuel by project vehicles, and other project activities could lead to water quality degradation or spills into coastal waters unless mitigation measures are included to prevent these occurrences.

Several of PG&E's proposed AMMs described in the previous section will reduce the potential for adverse water quality effects and spills. For example, PG&E will use erosion control measures to reduce the potential for turbid runoff into coastal waters. PG&E will fuel vehicles and equipment at least 200 feet from any coastal waters unless done within a constructed secondary containment area. PG&E will also ensure that stationary equipment, such as generators, pumps, or other equipment using fuel will be placed within secondary containment to avoid spills. PG&E will also be subject to conditions of the state's Construction General Permit for Stormwater Discharges and an accompanying Stormwater Pollution Prevention Plan (SWPPP). **Special Condition 3** requires PG&E to submit its SWPPP for Executive Director review and approval to ensure that the project's water quality control measures allow consistency with the above Coastal Act policies and that the installed erosion control and water quality measures minimize potential effects on nearby wetlands.

To further ensure that project activities do not adversely affect coastal waters, **Special Condition 4** requires PG&E to submit, for Executive Director review and approval, a Spill Prevention, Control, and Response Plan to the Executive Director for review and approval. This Plan shall describe all measures PG&E will implement to prevent spills of fuel from vehicles and to respond to spills should they occur. The Plan shall identify the maximum possible spills that could occur and the cleanup equipment that will be immediately available should such spills occur. The Plan shall also demonstrate that adequate equipment, personnel and protocols are in place to address the spill quickly and effectively, and shall include notification procedures to local spill responders.

With these measures in place, the Commission finds that the project would maintain the biological productivity and the quality of coastal waters in the project vicinity and would be consistent with the above-referenced Coastal Act policies.

F. VISUAL RESOURCES

Section 30251 of the Coastal Act states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.*

Some of the project work locations on or near Highway 101 will be visible from and along the shoreline of Humboldt Bay and will have the potential to cause adverse visual impacts. The County has designated the Humboldt Bay shoreline as a "scenic coastal area," which requires development in this area to be subordinate to the overall character of the shoreline. This project's visual impacts will be temporary – lasting a maximum of two months at any one location – and will consist of vehicles and equipment commonly sighted along the highway, so any visual impacts are expected to be minimal and subordinate to existing scenic values.

For these reasons, the Commission concludes that the proposed project is consistent with the requirements of Coastal Act Section 30251.

G. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30210 states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

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.*

Most project activities would occur at some distance from the shoreline; however, some of those activities, including those along Highway 101, would take place on or adjacent to public road rights-of-way that provide access to the shoreline. PG&E expects that work at several locations will require temporary traffic control – e.g., -- closure of a single traffic lane, use of flaggers to warn and slow traffic, etc. Depending on location, these will be subject to encroachment permits from the City, County, and CalTrans. The necessary safety measures are not expected to cause more than *de minimis* effects of traffic or on the public's ability to access the shoreline.

The Commission therefore finds that the proposed project would not result in adverse impacts to public access and is consistent with Sections 30210 and 30211 of the Coastal Act.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed development has been conditioned in order to be found consistent with the Coastal Act's Chapter 3 policies. Mitigation measures, including conditions addressing biological resources, fill of wetlands, visual resources, water quality, cultural resources and public access will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and is consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application Materials, including:

- Appendix A: PG&E Hydrotest Segments T-236-13, T-325-14, and T-326-14 Engineering Drawings
- Appendix B: Jurisdictional Wetlands and Waters Assessments for PG&E Hydrotest Segments T-236-13, T-325-14, and T-326-14
- Appendix C: Biological Resources Reports for PG&E Hydrotest Segments T-236-13, T-325-14, and T-326-14
- Appendix D: Cultural Reports for PG&E Hydrotest Segments T-236-13, T-325-14, and T-326-14
- Appendix E: Section 401 Water Quality Certification Applications for PG&E Hydrotest Segments T-325-14 and T-326-14

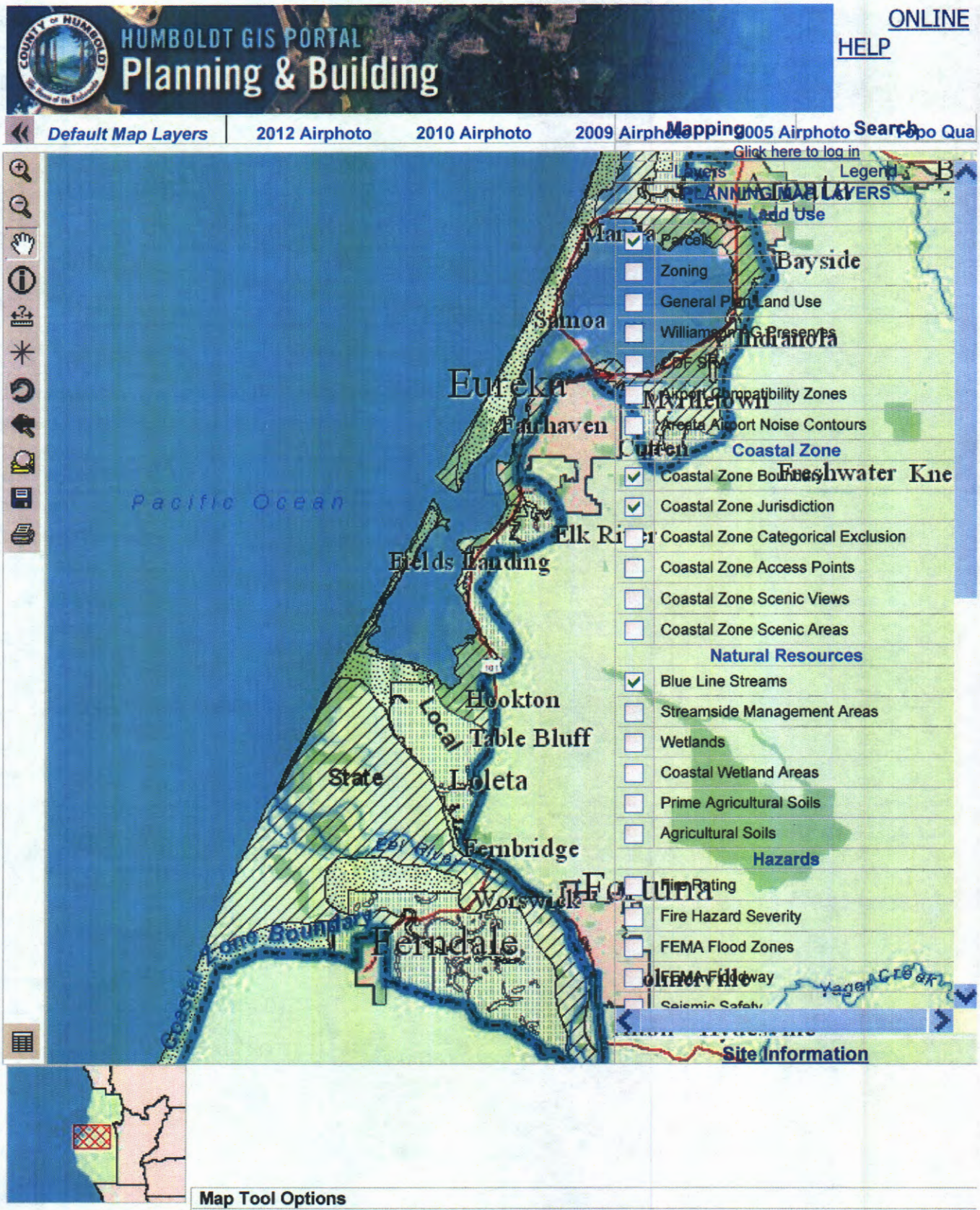
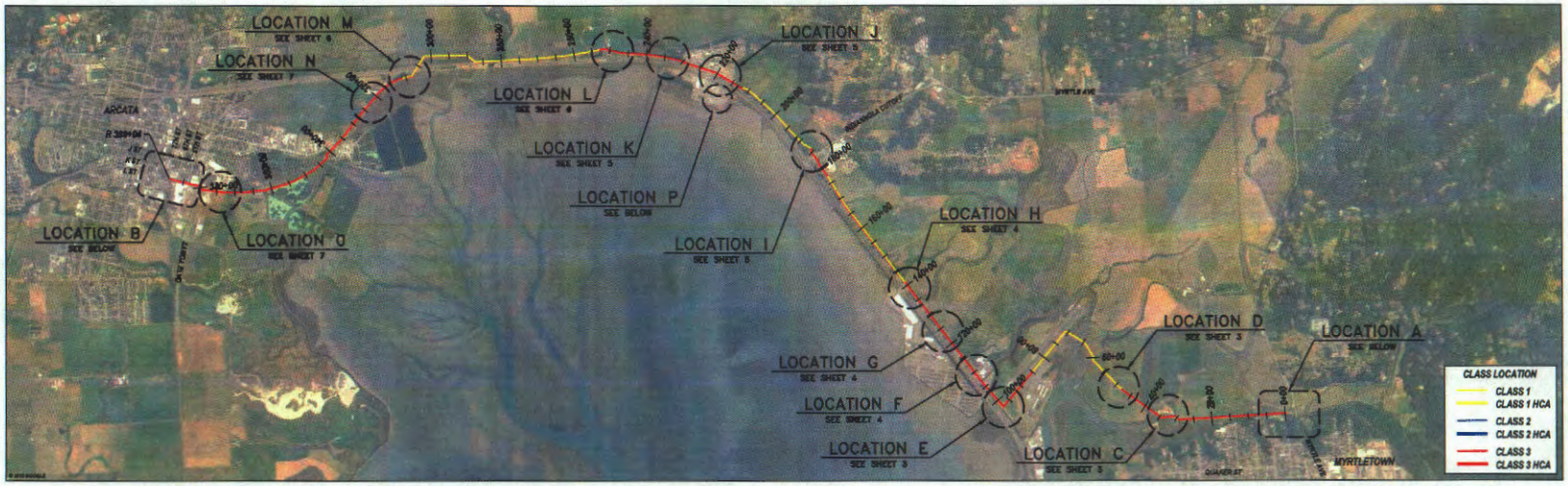


EXHIBIT 1
9-14-0563

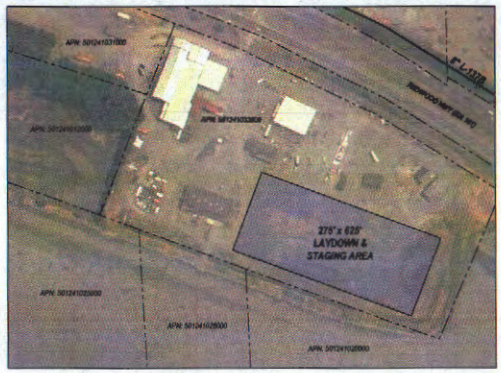
PLAN VIEW
(SCALE: 1" = 1600')



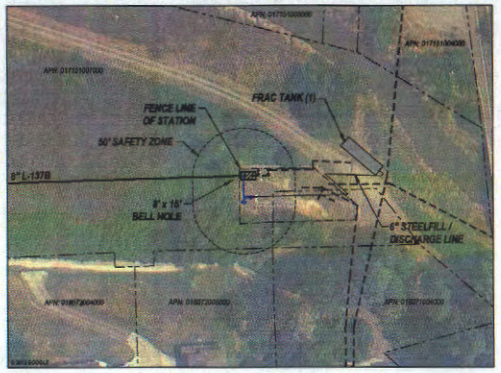
ESTIMATED VOLUME OF WATER
LOCATION A TO B TEST: 110,000 GALLONS.

LOCATION B
ARCATA REG. STA. – 7TH ST & L ST
WALL MAP – 784; PLAT – 12; BLOCK – 5,83,84; MP – 7.37
(SCALE: 1" = 80')

LOCATION P – STAGING AREA
REDWOOD HWY (CA 101)
WALL MAP – 850; PLAT – 03; BLOCK – N/A; MP – N/A
(SCALE: 1" = 200')



LOCATION A
RYAN SLOUGH REG STA – MYRTLE RD. & OAKRIDGE TERRACE LN
WALL MAP – 849; PLAT – 16; BLOCK – 8; MP – 0.00
(SCALE: 1" = 80')



SAFETY PLEDGE
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I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
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CALL: 811

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
		ISSUED FOR PERMIT	41748966				

REVISIONS

APPROVED BY: GM 41748966; SUPV; DSGN; DWN FJC; CHKD RDM; CK FMO; DATE; SCALES AS SHOWN

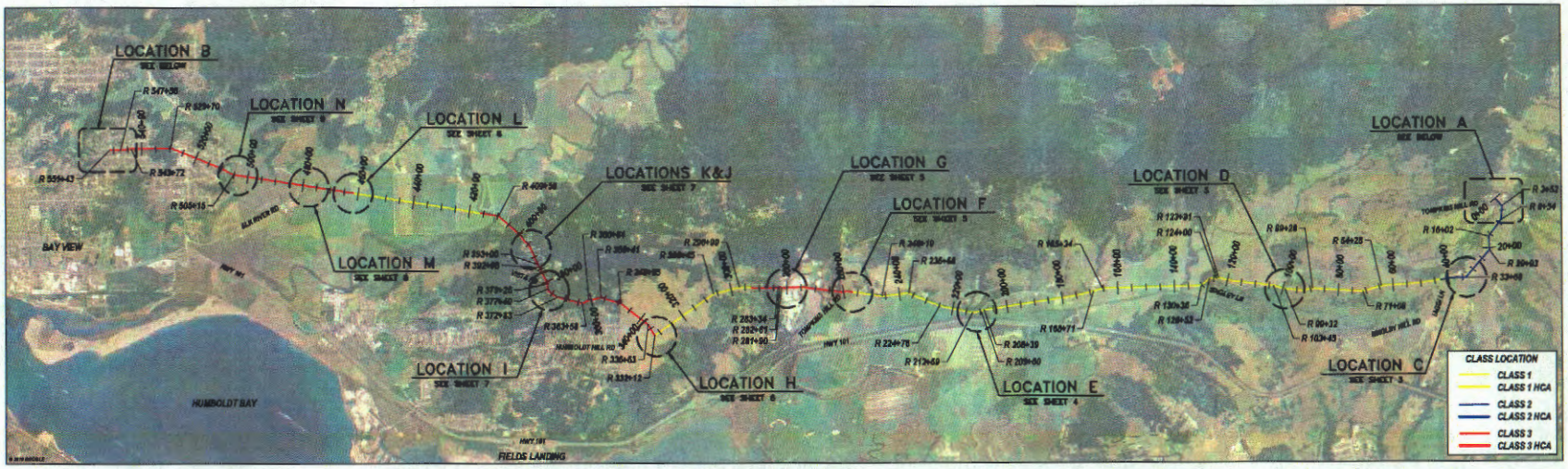
HYDROTEST T-236-13
L-137B
MP 0.00 – 7.37
EUREKA, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MATL SHEET 10
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 02 OF 10 SHEETS
41748966

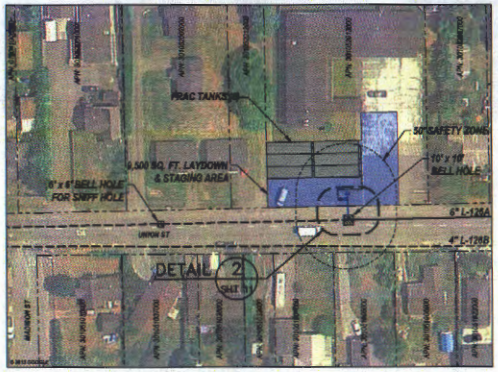
EXHIBIT 2a
9-14-0563

PLAN VIEW
(SCALE: 1" = 2000')

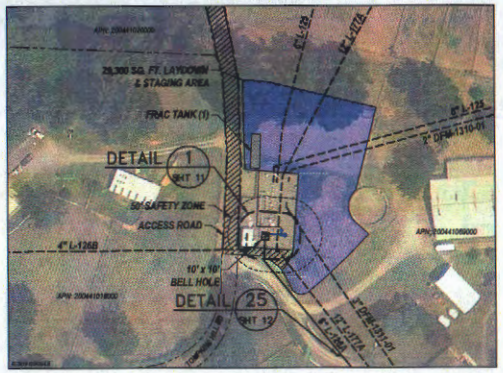


ESTIMATED VOLUME OF WATER
LOCATION A TO B TEST: 92,000 GALLONS.

LOCATION B
4670 UNION ST
WALL MAP - 983; PLAT - F4; BLOCK - N/A; MP - 10.51
(SCALE: 1" = 60')



LOCATION A
TOMPKINS HILL REG STATION
WALL MAP - 983; PLAT - F4; BLOCK - N/A; MP - 0.00
(SCALE: 1" = 80')



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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0		ISSUED FOR PERMIT	41918946				

REVISIONS

APPROVED BY	
GM	41918946
SUPV	
DSCM	
DWN	MJM
CHKD	CAF
QK. FMO	
DATE	
SCALES	AS SHOWN

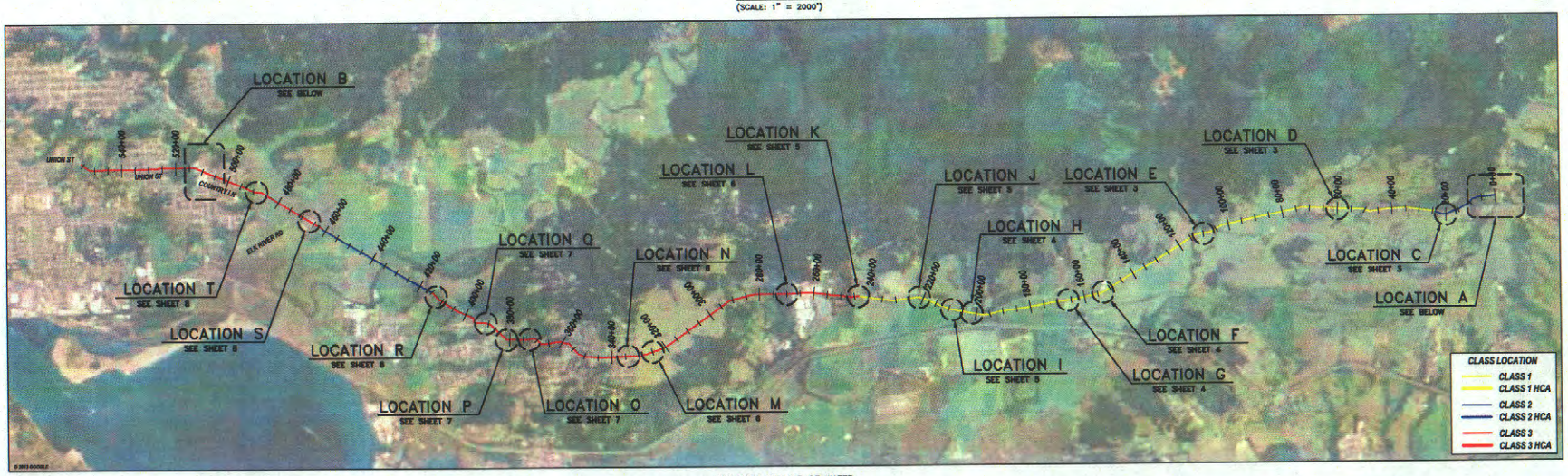
HYDROTEST T-325-14
L-126A
MP 0.00 - 10.51
HUMBOLDT HILL, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MATL SHEET 12	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. 02 OF 12 SHEETS	
41918946	D

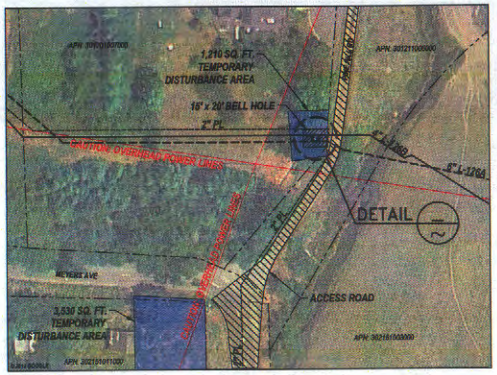
EXHIBIT 2b
9-14-0563

PLAN VIEW
(SCALE: 1" = 2000')

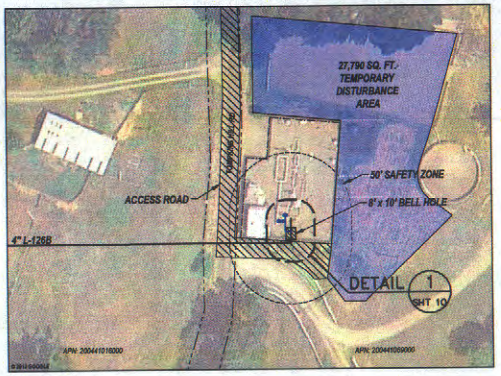


ESTIMATED VOLUME OF WATER
LOCATION A TO B TEST: _____ GALLONS.

LOCATION B
5111 MEYERS AVE
WALL MAP – 915; PLAT – B7; BLOCK – 13; MP – 9.29
(SCALE: 1" = 50')



LOCATION A
2050 TOMPKINS HILL RD
WALL MAP – 983; PLAT – F5; BLOCK – N/A; MP – 0.00
(SCALE: 1" = 50')



SAFETY
SAFETY PLEDGE
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D		ISSUED FOR PERMIT	41918947				

REVISIONS

APPROVED BY	
GM	41918947
SUPV	
DSDN	
DWN	MJC
CHKD	ROM
OK	FMO
DATE	
SCALES	AS SHOWN

HYDROTEST T-326-14
L-126B
MP 0.00 – 10.57
HUMBOLDT HILL, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
SAN RAMON, CALIFORNIA

BILL OF MATL SHEET 11	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. 02 OF 11 SHEETS	
41918947	D

EXHIBIT 2c
9-14-0563

EXHIBIT 3
9-14-0563

Pipeline Safety in Your Community

Hydrostatic Pressure Testing

Pacific Gas and Electric Company (PG&E) runs a comprehensive program to ensure the safety of our natural gas transmission system. One important aspect of our program is pipeline strength testing, called "hydrostatic pressure testing." This proven technique is used throughout the industry to confirm pipelines' safe operating pressures and identify any weaknesses.

What we're doing

PG&E is pressure testing gas transmission pipelines in more parts of our service area than ever before. Testing involves the following steps:

1. Inform the community: PG&E coordinates with local agencies and informs nearby customers about construction.
2. Isolate the pipeline: Crews turn off the flow of gas to the section to be tested.
3. Clear the pipeline: Natural gas is released using safe and controlled methods. The pipe's interior is mechanically cleaned.
4. Test the pipeline strength: The pipeline is filled completely with water. The water is then pressurized to a level much higher than normal operating pressure, and the test pressure is held and monitored for a minimum of eight hours.
5. Reconnect the gas system: When testing verifies the pipeline's strength and no leaks are detected, the pipeline is emptied of water, dried and placed back into service.

If the pipe is unable to maintain its test pressure, we investigate the cause, immediately repair any weaknesses and retest the line. Once the pipeline passes the test, the water is drained, filtered and tested before being properly disposed of according to local requirements.

What to expect

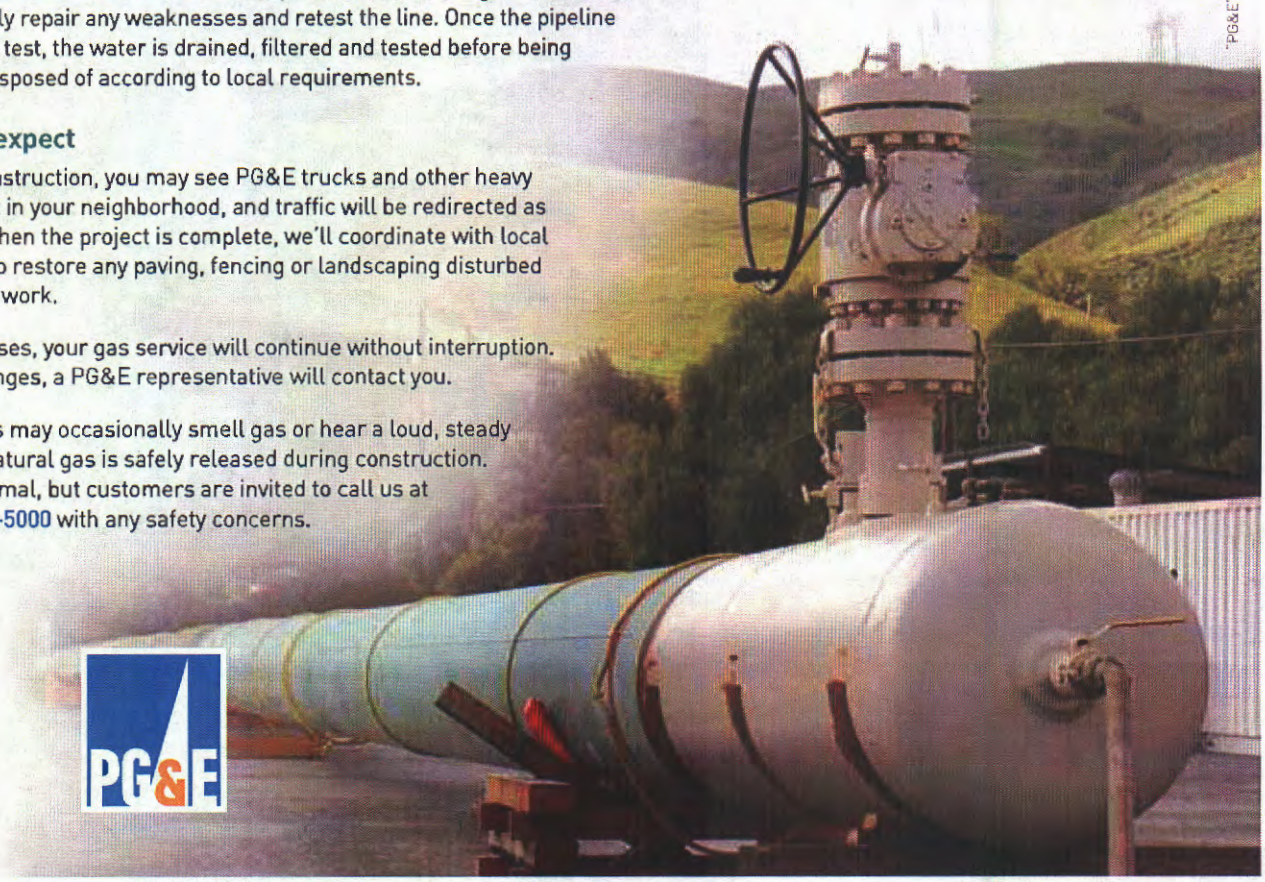
During construction, you may see PG&E trucks and other heavy equipment in your neighborhood, and traffic will be redirected as needed. When the project is complete, we'll coordinate with local agencies to restore any paving, fencing or landscaping disturbed during the work.

In most cases, your gas service will continue without interruption. If that changes, a PG&E representative will contact you.

Customers may occasionally smell gas or hear a loud, steady noise as natural gas is safely released during construction. This is normal, but customers are invited to call us at 1-800-743-5000 with any safety concerns.

Contact us with questions or concerns

- To learn about PG&E's natural gas system, visit www.pge.com/gas
- For information on pipeline safety programs, call our Gas System Help Line at 1-888-743-7431
- For general questions, call our Customer Service Line at 1-800-743-5000



5.0 Avoidance and Minimization Measures

The following AMMs have been developed to minimize the potential for impacts to special-status species and sensitive habitats during construction.

5.1 General AMMs

1. **Resource Agency Permits.** Prior to starting any work on the test, the conditions of all resource agency permit shall be reviewed and conditions contained therein shall be complied with during construction.

2. **Environmental Education**. Prior to starting any work on the test segment all PG&E employees and contractors must receive training on environmental and cultural conditions and requirements applicable to this test segment. If additional crewmembers arrive later in the job, they must go through the training prior to beginning work.

   Training will include a discussion of the avoidance and minimization measures that must be implemented as presented in this report. Training will include information on the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Workers will be informed about the presence, life history and habitat requirements of all special-status species that have the potential to be affected by the project. Training will also include information on state and federal laws protecting nesting birds, wetlands and other water resources.

   Construction crews will be provided with an educational brochure that will include color photos of sensitive species and a discussion of avoidance and minimization measures that must be implemented.

3. **Pre-construction Nesting Bird Surveys**. For work occurring between February 1 and August 31, pre-construction nesting bird surveys will be conducted by a qualified biologist within 14 days of construction, covering a radius of 250 feet for non-listed raptors and 100 feet for non-listed passerines at all work locations. If nesting birds are found, the PG&E biologist will evaluate whether existing screening buffers (such as buildings, trees, intervening topography) are sufficient to allow work to proceed and determine what level of work exclusion buffers or nest monitoring is needed. This could result in work areas being reduced in size. If work cannot proceed without disturbing nesting birds, or if signs of disturbance are observed by the monitor, work may be halted or redirected to other areas until the nesting and fledging is complete or until the nest has otherwise failed due to causes other than the project construction.

4. **Permit Copies.** A readily available copy of all permits will be maintained by the environmental inspector and construction foreman whenever project-related activities are taking place, and a copy of all permits will be onsite at all times.

5. **Hole or Trench Covers and Escape Ramps.** To prevent entrapment of sensitive species, all open holes, steep-walled holes, or trenches more than 2 feet deep shall be covered at the close of each work day by plywood or similar materials with all voids beneath the plates should be filled, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be

thoroughly inspected for trapped animals. Escape ramps must be set at an angle less than 33 degrees to ensure wildlife can climb out.

6. **Exclusion.** Pipes and culverts greater than four inches in diameter must be covered and stored to prevent wildlife from taking refuge. If this is not possible the PG&E biologist must be consulted to develop an alternative. An inspection for wildlife must be conducted prior to moving these materials.

7. **Work Area.** Vehicles and equipment must be parked on pavement, existing roads, and previously disturbed areas or access roads identified on the Issued for Construction drawings only. Work areas will incorporate tree protection as needed.

8. **Vegetation Trimming.** Any tree removal, pruning, or work within the drip line of trees other than in paved areas must be reviewed, approved, and conducted by a PG&E-approved arborist or their designee. Tree removal must be conducted outside of the bird nesting season to the extent possible. If this is not feasible, a preconstruction survey for active nests must be performed prior to tree removal. If an active nest is observed in the tree, the tree shall not be removed until the bird has finished nesting or September 15th, whichever is sooner. Additional measures (such as root pruning, monitoring, stump grinding) may be required by the arborist. Contractor shall notify arborist a minimum of two business days prior to requiring the arborist's services.

9. **Tree trimming/removal permission.** For tree removal or trimming, a permit or other landowner permissions may be required. Perform no tree removal or trimming without contacting the PG&E biologist/land planner (contact biologist- Tony Chappelle by email at AJCY@pge.com or by cell phone at 925-464-8667, land planner- Chuck Morton - 925-357-7193, cim3@pge.com).

10. **No Monofilament.** No monofilament plastic will be used for erosion control (e.g. matting, fiber roll, wattles, silt-fencing backing). Appropriate materials are burlap, coconut fiber, or other material as identified in the general and site-specific Stormwater Pollution Prevention Plan (SWPPP).

11. **Secondary Containment.** Stationary equipment (e.g. pumps, generators, compressors, lights) must be positioned over secondary containment.

12. **Spill Protection.** Baker tanks and poly tanks must be positioned over drip or spill protection.

13. **Erosion Control.** Erosion control measures will be implemented as identified in the SWPPP to reduce erosion and sedimentation in habitat potentially occupied by covered species when construction activities are the source of potential erosion problems.

14. **Refueling.** Vehicular and equipment refueling is prohibited within 200 feet of a wetland, stream, drainage, or other waterway unless secondary containment is constructed (e.g. a berm and lined refueling area) or the topography of the site drains away from a wetland/waterway. Proper spill prevention and cleanup equipment must be maintained in all refueling areas.

15. **Litter and Trash Management.** All food scraps, wrappers, food containers, cans, bottles and other trash from the work area must be disposed in closed trash containers. Trash must be removed completely from the work area at the end of each working day.

16. **Speed Limit.** Vehicles will not exceed a speed limit of 15 mph in the right-of-way or on unpaved roads unless it is unsafe to do so.
17. **Fire Protection.** All vehicles and equipment must have a fire extinguisher on-board.
18. **Smoking.** No smoking in or near the worksite, except in Environmental Inspector and Safety Inspector designated areas.
19. **Dust Suppression.** Use a water truck to control dust from disturbed soils, stockpiles, and unpaved access roads as needed. Watering will be done in such a manner that no puddles are formed.
20. **Waste, Firearms, and Pets.** Trash dumping, firearms, open fires (such as barbecues) that are not required by the activity, hunting, and pets are prohibited at all work locations and access roads.

5.2 Location Specific AMMs

5.2.1 T-236-13

5.2.1.1 Location A Specific AMMS:

Exclusion Fencing. Prior to excavation activities, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed between the work area and the wetlands to the north of the PG&E substation to minimize the potential for impacts to wetlands.

5.2.1.2 Location B Specific AMMs:

Exclusion Fencing. Prior to initial contractor access, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed above the bank of the drainage at this location to prevent access into the wetland and minimize the potential for runoff and spills to enter.

5.2.1.3 Location C Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to initial contractor access, chain-link fencing, barbed wire fencing, or other cattle proof fencing should be installed around the perimeter of the work area to prevent equipment from accessing adjacent areas.

Matting of the work area. Geotextile mats, timber mats, or similar products may be used to facilitate access and minimize disturbance to the work area if the soils are wet. These will only be installed if onsite conditions dictate their use.

5.2.1.4 Location D Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to initial contractor access, chain-link fencing, barbed wire fencing, or other cattle proof fencing should be installed around the perimeter of the work area to prevent equipment from accessing adjacent areas. Barbed wire fencing may also be required if cattle are present in the area.

Matting of the work area. Geotextile mats, timber mats, or similar products may be used to facilitate access and minimize disturbance to the work area if the soils are wet. These will only be installed if onsite conditions dictate their use.

5.2.1.5 Location E Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to initial contractor access, fencing should be installed around the perimeter of the work area to prevent equipment from accessing adjacent areas, including the wetland channel to the west and seasonal wetlands to the east.

5.2.1.6 Location G Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed between the work area and the bank of the wetland channel to minimize the potential for impacts to the Slough. Barbed wire fencing may also be required if cattle are present in the area.

Matting of the work area. Geotextile mats, timber mats, or similar products may be used to facilitate access and minimize disturbance to the work area if the soils are wet. These will only be installed if onsite conditions dictate their use.

Biological Monitoring. A biological monitor must be present during fencing installation, initial excavation, and initial work activities to minimize the potential to impact the wetland channel.

5.2.1.7 Location H Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, monofilament free wattles, silt fencing or other appropriate sediment control must be installed between the excavation location and the wetland channel to prevent access into them and minimize the potential for runoff and spills to enter.

5.2.1.8 Location I Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to initial contractor access, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed around the perimeter of the work area to Indianola Cutoff to prevent access into adjacent areas and minimize the potential to impact the wetland located downslope.

Matting of the work area. Geotextile mats, timber mats, or similar products may be used to facilitate access and minimize disturbance to the work area if the soils are wet. These will only be installed if onsite conditions dictate their use.

5.2.1.9 Location L Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, monofilament free wattles, silt fencing or other appropriate sediment control must be installed between the excavation location and work area and the wetland located downslope to prevent access into the wetland and minimize the potential for runoff and spills to enter.

5.2.1.10 Location M Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed between the work area and the freshwater wetlands west of the work site to minimize the potential for impacts to the wetlands.

5.2.1.11 Location N Specific AMMs:

Exclusion Fencing. Prior to excavation activities, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed between the work area and the drainage channel adjacent to the work site to minimize the potential for impacts to the channel.

5.2.1.12 Location O Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation locations will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, monofilament free wattles, silt fencing or other appropriate sediment control must be installed between the excavation locations and the wetland channels to prevent access into them and minimize the potential for runoff and spills to enter.

5.2.1.13 Location P Specific AMMS:

Exclusion Fencing. Prior to initial contractor access, chain-link fencing or other exclusion fencing should be installed around the perimeter of the staging area to prevent equipment from accessing the wetland channel.

5.2.2 T-325-14

5.2.2.1 Location E Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation locations will be stripped and stockpiled separately for reuse during post construction restoration.

Matting of the work area. Geotextile mats, timber mats, or similar products will be used to facilitate access and minimize disturbance to the work areas. These must be installed during initial contractor access.

Exclusion Fencing. Prior to initial contractor access, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed around the perimeter of the work areas to minimize the potential to impact adjacent areas. Barbed wire fencing may also be required if cattle are present in the area.

5.2.2.2 Location F Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Matting of the work area. Geotextile mats, timber mats, or similar products will be used to facilitate access and minimize disturbance to the drip excavation area and as needed along the access road. These must be installed during initial contractor access.

Exclusion Fencing. Prior to initial contractor access, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed around the perimeter of the drip excavation work area and access road to minimize the potential to impact adjacent areas. Orange construction fencing or similar material must be installed around the upland staging area to minimize the potential to impact adjacent areas. Barbed wire fencing may also be required around the excavation location and staging area if cattle are present.

Tree Protection: The white alder trees must have orange construction fencing installed around the portion of their dripline that fronts the work area. If work activities will occur within the dripline the PG&E approved arborist will be consulted with to determine if the trees need to be trimmed or removed.

5.2.2.3 Location L Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Matting of the work area. If the work area has wet soils during work activities, geotextile mats, timber mats, or similar products will be used to facilitate access and minimize disturbance to the work area.

Exclusion Fencing. Prior to initial contractor access, silt fencing or other appropriate sediment control fencing that is toed-in a minimum of 6 inches below ground must be installed around the perimeter of work area and access road to minimize the potential to impact adjacent areas. Barbed wire fencing may also be required around the excavation location and work area if cattle are present.

5.2.2.4 Location M Specific AMMs:

Exclusion Fencing. Prior to initial contractor access, chain-link fencing or other exclusion fencing should be installed around the perimeter of the staging area to prevent equipment from accessing the surrounding pasture wetlands.

5.2.2.5 Location N Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, monofilament free wattles, silt fencing or other appropriate sediment control must be installed between the excavation location and Martin Slough to minimize the potential for runoff and spills to enter.

5.2.1 T-326-14

Location B Specific AMMs:

Topsoil stockpiling. The top 6 to 12 inches of topsoil from the excavation location will be stripped and stockpiled separately for reuse during post construction restoration.

Exclusion Fencing. Prior to excavation activities, monofilament free wattles, silt fencing or other appropriate sediment control must be installed between the excavation location and Martin Slough to minimize the potential for runoff and spills to enter.

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities

State of California
CALIFORNIA NATURAL RESOURCES AGENCY
Department of Fish and Game
November 24, 2009[1]

INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to the survey and assessment of special status native plants and natural communities so that reliable information is produced and the potential of locating a special status plant species or natural community is maximized. They may also help those who prepare and review environmental documents determine when a botanical survey is needed, how field surveys may be conducted, what information to include in a survey report, and what qualifications to consider for surveyors. The protocols may help avoid delays caused when inadequate biological information is provided during the environmental review process; assist lead, trustee and responsible reviewing agencies to make an informed decision regarding the direct, indirect, and cumulative effects of a proposed development, activity, or action on special status native plants and natural communities; meet California Environmental Quality Act (CEQA)[2] requirements for adequate disclosure of potential impacts; and conserve public trust resources.

DEPARTMENT OF FISH AND GAME TRUSTEE AND RESPONSIBLE AGENCY MISSION

The mission of the Department of Fish and Game (DFG) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. DFG has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish and Game Code §1802). DFG, as trustee agency under CEQA §15386, provides expertise in reviewing and commenting on environmental documents and makes protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) provides additional protections for such species, including take prohibitions (Fish and Game Code §2050 *et seq.*). As a responsible agency, DFG has the authority to issue permits for the take of species listed under CESA if the take is incidental to an otherwise lawful activity; DFG has determined that the impacts of the take have been minimized and fully mitigated; and, the take would not jeopardize the continued existence of the species (Fish and Game Code §2081). Surveys are one of the preliminary steps to detect a listed or special status plant species or natural community that may be impacted significantly by a project.

DEFINITIONS

Botanical surveys provide information used to determine the potential environmental effects of proposed projects on all special status plants and natural communities as required by law (i.e., CEQA, CESA, and Federal Endangered Species Act (ESA)). Some key terms in this document appear in **bold font** for assistance in use of the document.

For the purposes of this document, **special status plants** include all plant species that meet one or more of the following criteria[3]:

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1 This document replaces the DFG document entitled "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities."

2 http://ceres.ca.gov/ceqa/

3 Adapted from the East Alameda County Conservation Strategy available at http://www.fws.gov/sacramento/EACCS/Documents/080228_Species_Evaluation_EACCS.pdf

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed[4] or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 *et seq.*). A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 *et seq*.). A plant is **rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:

  - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);

  - Species that may warrant consideration on the basis of local significance or recent biological information[5];

  - Some species included on the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2008)[6].

- Considered a **locally significant species,** that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. The most current version of the Department's *List of California Terrestrial Natural Communities*[7] indicates which natural communities are of special status given the current state of the California classification.

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands[8] or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants[9].

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4 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

5 In general, CNPS List 3 plants (plants about which more information is needed) and List 4 plants (plants of limited distribution) may not warrant consideration under CEQA §15380. These plants may be included on special status plant lists such as those developed by counties where they would be addressed under CEQA §15380. List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDB) *Special Plants, Bryophytes, and Lichens List.* [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.] Data on Lists 3 and 4 plants should be submitted to CNDDB. Such data aids in determining or revising priority ranking.

6 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

7 http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf. The rare natural communities are asterisked on this list.

8 http://www.wetlands.com/regs/tlpge02e.htm

9 U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

BOTANICAL SURVEYS

Conduct botanical surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

SURVEY OBJECTIVES

Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be **floristic in nature**, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status. Include a list of plants and natural communities detected on the site for each botanical survey conducted. More than one field visit may be necessary to adequately capture the floristic diversity of a site. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the species and communities on the site is also useful to assess the significance of a particular population.

SURVEY PREPARATION

Before field surveys are conducted, compile relevant botanical information in the general project area to provide a regional context for the investigators. Consult the CNDDB[10] and BIOS[11] for known occurrences of special status plants and natural communities in the project area prior to field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties of the site and surrounding ecoregion[12], unless a larger assessment area is appropriate. Then, develop a list of special status plants with the potential to occur within these vegetation types. This list can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on this list. Include in the survey report the list of potential special status species and natural communities, and the list of references used to compile the background botanical information for the site.

SURVEY EXTENT

Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects, such as those from fuel modification or herbicide application, could potentially extend offsite. Pre-project surveys restricted to known CNDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.

FIELD SURVEY METHOD

Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa

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10 Available at http://www.dfg.ca.gov/biogeodata/cnddb

11 http://www.bios.dfg.ca.gov/

12 Ecological Subregions of California, available at http://www.fs.fed.us/r5/projects/ecoregions/toc.htm

observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain[13], with additional time allocated for species identification.

TIMING AND NUMBER OF VISITS

Conduct surveys in the field at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present[14]. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.

REFERENCE SITES

When special status plants are known to occur in the type(s) of habitat present in the project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community.

USE OF EXISTING SURVEYS

For some sites, floristic inventories or special status plant surveys may already exist. Additional surveys may be necessary for the following reasons:

- Surveys are not current[15]; or
- Surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems); or
- Surveys are not comprehensive in nature; or fire history, land use, physical conditions of the site, or climatic conditions have changed since the last survey was conducted[16]; or
- Surveys were conducted in natural systems where special status plants may not be observed if an annual above ground phase is not visible (e.g. flowers from a bulb); or
- Changes in vegetation or species distribution may have occurred since the last survey was conducted, due to habitat alteration, fluctuations in species abundance and/or seed bank dynamics.

NEGATIVE SURVEYS

Adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year. Discuss such conditions in the report.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more

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[13] Adapted from U.S. Fish and Wildlife Service kit fox survey guidelines available at www.fws.gov/sacramento/es/documents/kitfox_no_protocol.pdf

[14] U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/sacramento/es/protocol.htm

[15] Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

[16] U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.

REPORTING AND DATA COLLECTION

Adequate information about special status plants and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants or natural communities[17] and will guide the development of minimization and mitigation measures. The next section describes necessary information to assess impacts. For comprehensive, systematic surveys where no special status species or natural communities were found, reporting and data collection responsibilities for investigators remain as described below, excluding specific occurrence information.

SPECIAL STATUS PLANT OR NATURAL COMMUNITY OBSERVATIONS

Record the following information for locations of each special status plant or natural community detected during a field survey of a project site.

- A detailed map (1:24,000 or larger) showing locations and boundaries of each special status species occurrence or natural community found as related to the proposed project. Mark occurrences and boundaries as accurately as possible. Locations documented by use of global positioning system (GPS) coordinates must include the datum[18] in which they were collected;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If the species is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of individuals in each life stage such as seedlings vs. reproductive individuals;
- The number of individuals of the species per unit area, identifying areas of relatively high, medium and low density of the species over the project site; and
- Digital images of the target species and representative habitats to support information and descriptions.

FIELD SURVEY FORMS

When a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form[19] or equivalent written report, accompanied by a copy of the relevant portion of a 7.5 minute topographic map with the occurrence mapped. Present locations documented by use of GPS coordinates in map and digital form. Data submitted in digital form must include the datum[20] in which it was collected. If a potentially undescribed special status natural community is found on the site, document it with a Rapid Assessment or Relevé form[21] and submit it with the CNDDB form.

VOUCHER COLLECTION

Voucher specimens provide verifiable documentation of species presence and identification as well as a public record of conditions. This information is vital to all conservation efforts. Collection of voucher specimens should

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17 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata. For Timber Harvest Plans (THPs) please refer to the "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf

18 NAD83, NAD27 or WGS84

19 http://www.dfg.ca.gov/biogeodata

20 NAD83, NAD27 or WGS84

21 http://www.dfg.ca.gov/biogeodata/vegcamp/veg_publications_protocols.asp

be conducted in a manner that is consistent with conservation ethics, and is in accordance with applicable state and federal permit requirements (e.g. incidental take permit, scientific collection permit). Voucher collections of special status species (or suspected special status species) should be made only when such actions would not jeopardize the continued existence of the population or species.

Deposit voucher specimens with an indexed regional herbarium[22] no later than 60 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant permittee names and permit numbers on specimen labels. A collecting permit is required prior to the collection of State-listed plant species[23].

BOTANICAL SURVEY REPORTS

Include reports of botanical field surveys containing the following information with project environmental documents:

- **Project and site description**
  - A description of the proposed project;
  - A detailed map of the project location and study area that identifies topographic and landscape features and includes a north arrow and bar scale; and,
  - A written description of the biological setting, including vegetation[24] and structure of the vegetation; geological and hydrological characteristics; and land use or management history.
- **Detailed description of survey methodology and results**
  - Dates of field surveys (indicating which areas were surveyed on which dates), name of field investigator(s), and total person-hours spent on field surveys;
  - A discussion of how the timing of the surveys affects the comprehensiveness of the survey;
  - A list of potential special status species or natural communities;
  - A description of the area surveyed relative to the project area;
  - References cited, persons contacted, and herbaria visited;
  - Description of reference site(s), if visited, and phenological development of special status plant(s);
  - A list of all taxa occurring on the project site. Identify plants to the taxonomic level necessary to determine whether or not they are a special status species;
  - Any use of existing surveys and a discussion of applicability to this project;
  - A discussion of the potential for a false negative survey;
  - Provide detailed data and maps for all special plants detected. Information specified above under the headings “Special Status Plant or Natural Community Observations,” and “Field Survey Forms,” should be provided for locations of each special status plant detected;
  - Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms should be sent to the CNDDB and included in the environmental document as an Appendix. It is not necessary to submit entire environmental documents to the CNDDB; and,
  - The location of voucher specimens, if collected.

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22 For a complete list of indexed herbaria, see: Holmgren, P., N. Holmgren and L. Barnett. 1990. Index Herbariorum, Part 1: Herbaria of the World. New York Botanic Garden, Bronx, New York. 693 pp. Or: http://www.nybg.org/bsci/ih/ih.html

23 Refer to current online published lists available at: http://www.dfg.ca.gov/biogeodata.

24 A vegetation map that uses the National Vegetation Classification System (http://biology.usgs.gov/npsveg/nvcs.html), for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.

- **Assessment of potential impacts**
  - A discussion of the significance of special status plant populations in the project area considering nearby populations and total species distribution;
  - A discussion of the significance of special status natural communities in the project area considering nearby occurrences and natural community distribution;
  - A discussion of direct, indirect, and cumulative impacts to the plants and natural communities;
  - A discussion of threats, including those from invasive species, to the plants and natural communities;
  - A discussion of the degree of impact, if any, of the proposed project on unoccupied, potential habitat of the species;
  - A discussion of the immediacy of potential impacts; and,
  - Recommended measures to avoid, minimize, or mitigate impacts.

QUALIFICATIONS

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

SUGGESTED REFERENCES

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U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.

U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.

Van der Maarel, E. 2005. Vegetation Ecology. Blackwell Science Ltd., Malden, MA.

6.0 Restoration of Temporarily Disturbed Areas and Mitigation

6.1 Restoration of Temporarily Disturbed Areas

6.1.1 Existing vegetation

The work areas in jurisdictional locations are largely dominated by facultative wetland species including Italian ryegrass, Himalayan blackberry, common velvet grass, tall fescue, and scattered sedge and rush species. Some vegetation trimming and removal may be required to allow for equipment access and material storage at the work locations, but no excavation or grading will take place except for the designated excavation locations shown in Appendix A. Excavation locations in CCC-jurisdictional areas the topsoil will be stockpiled separately for respreading after the excavations have been backfilled.

No trees or shrubs except for blackberry are expected to be removed from jurisdictional areas.

6.1.2 Stabilization and Seeding

Upon completion of the project, the level and precise limits of disturbance will be evaluated for restoration. The evaluation for the restoration efforts will focus on areas where post-construction conditions are degraded due to work activities, erosion, and vegetation removal and will evaluate the need for any contour restoration, slope stabilization, and reestablishment of appropriate vegetation. The existing contour of the work area will be restored. A weed-free native seed mix will be used in site revegetation. The seed mix that will be applied to the jurisdictional areas are shown in Table 6-1. This seed mix may be modified somewhat if evidence of regeneration of native species is observed prior to seeding in the fall.

Broadcast seeding or hydroseeding will take place within all affected areas, and a layer of tackifier and mulch will be spread over the seeds; no fertilizer will be applied with the seed mix due as the work areas are located within potential CCC-jurisdictional areas. Because the projects work areas consist of a narrow strip of land surrounded by mostly non-native vegetation, it is unlikely that native vegetation will persist long-term in this area and establishment of native vegetation is not considered to be a success criterion for this project.

6.1.3 Monitoring and Reporting

The potential CCC-jurisdictional wetlands that will be temporarily disturbed at T-236-13 Locations B through I and L through P; T-325-14 Locations F, L, M, and N; and T-326-14 Location B will be evaluated one month post restoration, and two times in 2015 by a qualified restoration specialist to evaluate the site against the restoration success criteria. The site visits in 2015 will be conducted in the spring as new vegetation is emerging, and during the summer prior to seed set. During these site visits, state-listed noxious weeds (http://plants.usda.gov/java/noxious?rptType=State&statefips=06) will be hand pulled and removed from the work area. Follow-up seeding will be conducted if 70% cover is not reached within 1 year after project activities are completed.

If all success criteria are met prior to the end of 2015, no further site visits will be conducted. If the success criteria are not met by the end of this period, additional remedial actions may be required and these will be coordinated with the RWQCB.

A post-restoration report will be sent to the RWQCB by December 31, 2014, and an annual monitoring report documenting performance against success criteria will be submitted by December 31, 2015. The reports will include photos from four designated photo stations at each work location.

TABLE 6-1
Seed Mix Used for Site Restoration at Potential CCC-jurisdictional Areas

	Seed Mix	
Scientific Name	Common Name	Lbs./acre
Hordeum brachyantherum	Meadow barley	12
Vulpia microstachys	Six-weeks fescue	8
Trifolium willdenovii	Tomcat clover	6
Scirpus microcarpus	Small-fruited bulrush	4
Juncus effusus	Pacific rush	4
Carex obnupta	Slough sedge	2

6.1.4 Success Criteria

- Minimum 70% cover relative to adjacent undisturbed areas.
- State listed noxious weeds equal in cover or less than adjacent undisturbed areas.

6.2 Mitigation

No mitigation is proposed for this project as all disturbance to wetlands will be temporary, and following project activities they will be restored to pre-activity contours, and seeded with a habitat appropriate native seed mix prior to the rainy season. Project activities will not affect the function or beneficial uses of the seasonal wetlands within the work areas.

EXHIBIT 6
9-14-0563
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