Delineation of Waters of the United States

for

Pacific Gas and Electric Company's Fulton-Fitch Mountain Reconductoring Project, Sonoma County, California

May 2015

Prepared for
Pacific Gas and Electric Company
245 Market Street, N10A
San Francisco, CA 94105

Prepared by
TRC
101 2nd Street, Suite 300
San Francisco, CA 94105

TABLE OF CONTENTS

List of Tables

List of Attachments

1.0 INTRODUCTION

Pacific Gas and Electric Company (PG&E) proposes to reconductor (replace existing conductors with new conductors) a section of the existing Fulton-Hopland 60 kilovolt (kV) Power Line and a section of the Geysers #12-Fulton 230 kV Transmission Line, located in eastern Sonoma County, California (see Attachment A: Site and Vicinity Map). The Fulton-Fitch Mountain Reconductoring Project (project) consists of replacing and removing existing poles, most of which are wood, with a combination of light-duty steel (LDS) or tubular steel poles (TSPs); setting and removing temporary wood poles for shoo-flies and guard structures at locations where conductor crosses public roads or other power lines and at pull and tension sites; establishing required access and construction work areas; and reconductoring the alignment, which entails replacing approximately 9.9 miles of existing conductors on the existing 60 kV power line and approximately 1.3 miles of existing conductor on the existing 230 kV transmission line with new conductors. None of the existing poles along the 230 kV portion of the project are proposed for replacement.

Reconductoring the existing Fulton-Hopland 60 kV Power Line will avoid impacts that would be expected to occur with development of a new power line route. PG&E has also incorporated a series of applicant-proposed measures to address potential project-related impacts.

The project's Draft Biological Resources Technical Report (Garcia and Associates (GANDA) 2012) (herein referred to as the "GANDA report") identified 70 wetlands/water features within the 60 kV portion of the survey area. TRC performed a supplemental field survey in March of 2015 and identified an additional eight water features along the 230 kV portion of the project. Of the 78 features, 11 wetlands and water features located along the 60 kV portion of the project are located close enough to project-related disturbance areas that there is potential for impacts. PG&E determined that the project could avoid impacts to nine of the 11 wetlands and water features with the use of full span bridges and plating to be placed outside of the top of the bank of the features such that no material or impacts occur within the bed, bank, or channel; the remaining two seasonal wetlands will be temporarily impacted by project-related construction and are evaluated as part of this document. All the water features identified along the 230 kV portion of the project will be avoided by project-related activities.

The purpose of this document is to present the results of a formal delineation for these two potentially jurisdictional wetlands. This document also discusses the nine other wetlands and water features located near project disturbance areas identified in the GANDA report; however, they were not formally delineated because the project will not impact them.

This report presents the results of TRC Solutions, Inc. (TRC) review of available literature, aerial photographs, soil surveys (Attachment B: Soils Map), and fieldwork within the survey area. The field survey was conducted according to the technical guidelines provided in the 1987 U.S. Army Corps of Engineers (Corps) Wetlands Delineation Manual and the Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (Version 2.0) to identify and delineate wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act (CWA). Detailed maps illustrating the 11 wetlands and water features located near project-related disturbance areas are provided in Attachment C. The acreages and coordinates for all features identified in the GANDA report are included in Attachment D. Contact information for the project proponent and the TRC project manager are included below.

1.1 CONTACT INFORMATION

Project Proponent
Nathan Lishman
Pacific Gas & Electric
245 Market Street, N10A
San Francisco, CA 94105
(415) 973-5699

Consultant
Molly Sandomire
TRC Solutions, Inc.
1920 Old Middlefield Way
Mountain View, CA 94043
(650) 967-2365

1.2 JURISDICTIONAL OVERVIEW

The Corps administers and enforces Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the CWA. Under Section 10, a Corps permit is required for work or structures in, over, or under navigable "waters of the United States." Under Section 404 of the CWA, a Corps permit is required for the discharge of dredged and/or fill material into "waters of the United States."

Typical activities requiring Section 10 permits are:

- Construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats, intake structures, and cable or pipeline crossings over or under navigable or tidal waters.
- Dredging and excavation within navigable or tidal waters or any obstruction or alteration of any "navigable water of the U.S."

Typical activities requiring Section 404 permits are:

- Addition of fill material in "waters of the U.S." or adjacent wetlands for residential, commercial, or recreational developments.
- Construction of bridges, culverts, revetments, groins, breakwaters, levees, dams, dikes, and weirs in "waters of the U.S." or adjacent wetlands.

1.2.1 Waters of the United States

The term "waters of the United States" is defined in 33 Code of Federal Regulation (CFR) part 328 to include: (i) all navigable waters (including all waters subject to the ebb and flow of the tide), (ii) all interstate waters and wetlands, (iii) all other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, (iv) all impoundments of waters mentioned above, (v) all tributaries to waters mentioned above, (vi) the territorial seas, and (vii) all wetlands adjacent to waters mentioned above.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 CFR §328.3(b)]. Presently, to be a wetland, the feature must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

The lateral extent of non-tidal waters is determined by delineating the ordinary high-water mark (OHWM) [33 CFR §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 CFR §328.3(e)].

2.0 METHODS

2.1 JURISDICTIONAL DELINEATION

This delineation utilized the Corps' 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate jurisdictional waters of the U.S. The Arid West Supplement was also used in conjunction with the 1987 Corps Manual. Where differences in the two documents occur, the Arid West Supplement was given precedence over the Corps Manual. This methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of wetlands. The 2012 National Wetlands Plant List for the Arid West region was used to determine the wetland indicator status for plant species identified during the field survey.

Prior to beginning the field delineation, TRC reviewed the GANDA report to identify the location of the mapped wetlands and water features within the project survey area. A formal wetland delineation was performed only for the two wetland features that cannot be avoided by project-related activities. Google Earth and shapefile data files provided by GANDA were used to incorporate the other nine wetlands and water features located near project disturbance areas, as identified in the GANDA report, onto the wetland delineation maps included in Attachment C. U.S. Geological Survey (USGS) 7.5-minute series quadrangle maps and Natural Resources Conservation Service (NRCS) soil mapping data for the project area were also reviewed to assist with the field survey.

The fieldwork for the delineation was conducted on November 2, 2012 by TRC biologists Julie Allison and Mike Farmer. The two previously identified wetland areas were assessed, and representative data points were collected to determine the extent of wetland boundaries. A complete list of plant species observed within the delineated wetlands is included as Attachment E.

2.2 GPS DATA INTEGRATION

The wetland boundaries for the two features delineated by TRC were mapped with a Trimble GeoXT Global Positioning System (GPS) hand-held unit. This mapping-grade GPS unit is capable of real-time differential correction and sub-meter accuracy. The GPS data was downloaded from the unit and differentially corrected utilizing Trimble Pathfinder Office Software and appropriate base station data, and then converted to an ESRI shape file format. The data was exported to the Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units in U.S. survey feet. Within GIS and ArcGIS, data was edited as appropriate to represent field conditions, and acreages were calculated. Google Earth data files from GANDA were merged with TRC data to create a single wetland file with acreages for each feature. The figures included as Attachment C depict the results of the integrated dataset.

3.0 RESULTS

3.1 SITE LOCATION

The proposed project is located in eastern Sonoma County, California (Healdsburg and Sebastopol USGS 7.5-minute quadrangles). The project alignment runs from the community of Fulton, roughly north through the foothills of the Coastal Range, to the southeast side of the City of Healdsburg. The project has an elevation range of approximately 110 to 600 feet.

The project originates at the Fulton Substation in the community of Fulton. The alignment crosses Highway 101 in a northeasterly direction and runs along the west side of Lavell Road past its intersection with Noonan Ranch Road. The alignment continues north, crossing Deerwood Drive and Mark West Creek, across Old Redwood Highway. It parallels the east side of Faught Road, and then crosses Faught Road where it turns east, and parallels the north side of the road. The alignment turns north at an existing tubular steel pole east of Faught Road, within the south side of Sonoma County's Shiloh Regional Park. From there, the alignment passes through a vineyard and the regional park and crosses Dumps Road. The power line runs north through rangeland and woodlands, skirting more vineyards, and crosses Pool Creek, Chalk Hill Road, and Wright Creek. The power line continues north through Sonoma County's Foothill Regional Park and crosses Windsor Creek and Brooks Road. North of Brooks Road, the power line roughly parallels a ridgeline, crossing lands managed within the Sonoma County Open Space District, including Windsor Oaks Vineyards, and open rangeland. The project terminates on a ridge on the Minaglia Ranch, south of the Russian River and Baillhache Road in Healdsburg.

3.2 EXISTING CONDITIONS

GANDA biologists conducted a survey of existing vegetation, soils, and wetlands and water features located within a study area extending 250 feet on both sides of proposed access roads, work areas, and the project alignment between pole 1/6 on Faught Road and pole 9/5A on Minaglia Ranch. GANDA's survey area covered roughly 480 acres, much of which is comprised of intergrading woodland, grassland, and forest communities. The 230 kV portion of the project surveyed by TRC amounted to roughly 117 acres, of which nearly 90 percent is comprised of developed land such as residential developments, roadways, schools, urban parks, vineyards, and the Fulton Substation.

3.2.1 Vegetation

Vegetative cover within the survey area has been classified into 11 vegetation communities, described below.

Coast Live Oak Woodland and Coast Live Oak Forest

Coast live oak woodland and coast live oak forest are the most common vegetation communities in the survey area, with a combined areal extent of approximately 169 acres. TRC's March 2015 survey included an additional 2.28 acres of coast live oak woodland. The two vegetation types are differentiated by the density of their canopies: coast live oak woodland has an intermittent canopy with a grassy, open understory, while coast live oak forest has a more closed canopy and fewer openings that support herbaceous species. The canopy in both cases is dominated by coast live oak (*Quercus agrifolia*). Other tree species such as madrone (*Arbutus menziesii*), blue oak (*Q. douglasii*), Oregon oak (*Q. garryana* ssp. *garryana*), and

California bay (*Umbellularia californica*) are common; and occasionally California buckeye (*Aesculus californicus*) are present. Common woody plants in the understory include poison oak (*Toxicodendron diversilobum*) and hairy honeysuckle (*Lonicera hispidula* var. *vacillans*). Common herbaceous species growing in the openings between trees and at the woodland edge include slender wild oat (*Avena barbata*), rattlesnake grass (*Briza maxima*), wavy-leaf soaproot (*Chlorogalum pomeridianum*), hedgehog dogtail (*Cynosurus echinatus*), blue wildrye (*Elymus glaucus*), purple needlegrass (*Stipa pulchra*), and common hedge parsley (*Torilis arvensis*). Coast live oak woodland and coast live oak forest are the dominant community types in the foothills above the valley floor, where they intergrade with each other, Oregon oak woodland, and mixed north slope cismontane woodland.

Grasslands

Grasslands are the second most common community type in the survey area, comprising approximately 115 acres of the GANDA study area. The survey area evaluated by TRC in March 2015 included an additional 13.72 acres of grassland. These grasslands consist of areas dominated by low-growing grasses and herbs, with few trees and/or shrubs. Common species in the grasslands are Spanish lotus (*Acmispon americanus*), barbed goatgrass (*Aegilops triuncialis*), slender wild oat, purple false brome (*Brachypodium distachyon*), rattlesnake grass, ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), sterile brome (*B. sterilis*), hedgehog dogtail, medusahead (*Elymus caput-medusae*), blue wildrye, stork's-bills (*Erodium botrys*), six weeks rattail fescue (*Festuca myuros*), rye grass (*F. perennis*), Harding grass (*Phalaris aquatica*), purple needlegrass, little hop clover (*Trifolium dubium*), and rose clover (*T. hirtum*). Some areas support non-dominant native wildflowers such as clarkias (*Clarkia* sp.), lupines (*Lupinus* sp.), and leptosiphon (*Leptosiphon* sp.).

Mixed North Slope Cismontane Woodland

Mixed north slope cismontane woodland is also common in the study area, comprising approximately 93 acres of the GANDA study area. Canopy openings are common and shrubs are common in the understory. The overstory of this woodland contains the same mixture of species as in coast live oak woodland; however, in the mixed north slope cismontane woodland, no single species regularly dominates the overstory. Common tree species include California buckeye, madrone, coast live oak, blue oak, garry oak, and California bay. California black oak (*Quercus kelloggii*) and grey pine (*Pinus sabiniana*) are also present, though in smaller quantities. Shrub species include common manzanita (*Arctostaphylos manzanita*), coyote brush (*Baccharis pilularis*), hoary honeysuckle (*Lonicera hispidula*), snowberry (*Symphoricarpos mollis*), and poison oak. The herbaceous layer in this mixed woodland is similar to that of the coast live oak woodland.

Oregon Oak Woodland

The Oregon oak woodland community comprises approximately 32 acres of the GANDA study area. This woodland type is dominated by well-spaced, medium-sized Oregon oak trees. Other trees such as California buckeye, madrone, coast live oak, and blue oak are scattered throughout the overstory. Common woody plants in the understory include poison oak, hairy honeysuckle, and snowberry. The herbaceous layer contains grasses and herbs also common to both coast live oak woodland and grasslands. This community type intergrades with coast live oak woodland and mixed north slope cismontane woodland.

Vineyard

Cultivated grape (*Vitis vinifera*) vineyards comprise approximately 32 acres of the GANDA study area. Approximately 10 acres of the vineyard habitat is currently fallow. An additional 21.56 acres of this habitat was mapped within the survey area as part of TRC's March 2015 field survey. An abandoned orchard and a small maintained orchard were included in this category. The vineyards are managed with even-aged grape vines and a mowed ruderal understory. Common understory species include wild oat, soft chess, ripgut brome, various types of filaree, black medic (*Medicago lupulina*), English plantain (*Plantago lanceolata*), little hop clover (*Trifolium dubium*), rose clover, and subterranean clover (*T. subterraneum*). Fallow vineyards are dominated by a thick, weedy coverage of wild oat, field mustard (*Brassica rapa*), common mallow (*Malva neglecta*), Harding grass, blessed milk thistle (*Silybum marianum*), scarlet clover (*Trifolium incarnatum*), and winter vetch (*Vicia villosa*).

Central Coast Live Oak Riparian Forest

Central Coast live oak riparian forest comprises approximately 22 acres of the GANDA study area. This community type is found exclusively in the corridors of larger perennial streams. In these settings, the canopy is dense, multi-storied, and tall, often up to 50 feet. Although coast live oak is the dominant tree in the dense overstory of these corridors, these riparian forests have a more evenly mixed canopy than upland coast live oak communities. This community includes broad-leaved and riparian trees such as big-leaf maple (*Acer macrophyllum*), California buckeye, Valley oak (*Quercus lobata*), interior live oak (*Q. wislizenii*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). Common understory shrubs include blackberry (*R. armeniacus, Rubus ursinus*), snowberry, and poison oak. The streams contain a mix of hydrophytic herbs such as tall nutsedge (*Cyperus eragrostis*), dense willow-herb (*Epilobium densiflorum*), pennyroyal (*Mentha pulegium*), seep-spring monkeyflower (*Mimulus guttatus*), rabbit's foot grass (*Polypogon monspeliensis*) and, on rocks below ordinary high water, the moss *Scleropodium*.

Developed Areas

A small portion of the GANDA study area, approximately 6 acres, is developed as residential homes with driveways, yards, gardens, barns, tennis courts, small orchards, and similar non-natural environments. Conversely, 71.93 acres of developed land were mapped within the TRC survey area, accounting for just over 60 percent of the survey area. As mentioned above, developments along the 230 kV portion of the project include residential developments, roadways, schools, urban parks, and the Fulton Substation.

California Bay Forest

California bay forest covers approximately 2 acres of the GANDA study area. Although California bay can be found scattered throughout wooded vegetation communities in the survey area, it dominates the overstory in California bay forest. Coast live oak and madrone are present in the understory. A small patch of California-tea (*Rupertia physodes*) occurs at the edge of this forest type; while this species isn't listed as "rare," this is an unusual occurrence of a plant species that was found nowhere else in the survey area.

Blue Oak Woodland

Although blue oak is commonly scattered throughout other woodland types in the survey area, approximately 2 acres of blue oak woodland dominated by well-spaced, medium-sized blue oak trees occurs near the southern end of survey area. The understory consists of the same grasses and herbs discussed above under Grasslands.

Douglas'-fir Forest

Douglas'-fir (*Pseudotsuga menziesii*) forest comprises approximately 1.5 acres of the GANDA study area. This community was observed along a drainage, and up an adjacent slope, in the central portion of the study area. California bay and madrone occur in the sub-canopy.

Red Gum Stand

A small stand (less than an acre) dominated by tall red gum trees (*Eucalyptus camaldulensis*) was observed growing on a ridge in the central portion of the survey area.

Agricultural Land

A total of 5.24 acres of the survey area evaluated by TRC are used for grazing horses or cropland. The cropland was fallow during TRC's March 2015 survey.

3.2.2 Soils

The NRCS has mapped 20 soil types within the survey area (Attachment B). General characteristics associated with each soil type found within the survey area are described below. The two wetlands formally delineated occur within the Felta very gravelly loam soil series. Soil data indicates that the soils within the survey area are derived from a number of volcanic and sedimentary sources. No serpentine, serpentinite, or gabbro soils are present in the study area.

Table 1: Soil Types within the Study Area

Soil Type(s)	General Description
Arbuckle gravelly loam, 0 to 5 percent slopes	Very deep, well-drained soils that formed in alluvial materials from mainly conglomerate and metasedimentary rocks.
Clear Lake clay, 0 to 2 percent slopes	Very deep, poorly drained soils that formed in fine textured alluvium derived from sandstone and shale.
Dibble Clay Loam, 2 to 9 percent slopes Dibble Clay Loam, 9 to 15 percent slopes Dibble Clay Loam, 15 to 30 percent slopes Dibble Clay Loam, 15 to 30 percent slopes, eroded Dibble Clay Loam, 30 to 50 percent slopes Dibble Clay Loam, 30 to 50 percent slopes, eroded	Moderately deep, well-drained soils that formed in material weathered from shale and sandstone (sedimentary origin).
Felta Very Gravelly Loam, 5 to 15 percent slopes Felta Very Gravelly Loam, 15 to 30 percent slopes Felta Very Gravelly Loam, 30 to 50 percent slopes	Well-drained soils formed in mixed gravelly alluvium from mixed igneous rocks.
Guenoc Gravelly Silt Loam, 30 to 75 percent slopes	Moderately deep, well-drained soils formed in material weathered from basaltic (volcanic) rock.

Haire clay loam, 0 to 9 percent slopes	Clayey, mixed, thermic soils. Moderately well-drained; slow to rapid runoff; very slow permeability.
Laniger Loam, 30 to 50 percent slopes	Well- to excessively-drained soils. Underlying bedrock is rhyolite or rhyolitic tuff (igneous volcanic origin with high silica content).
Positas Gravelly Loam, 9 to 15 percent slopes	Deep and very deep, moderately well-drained soils that formed in alluvial material from mixed rock sources.
Riverwash	Alluvium from mixed sources.
Spreckles Loam, 2 to 9 percent slopes Spreckles Loam, 9 to 15 percent slopes Spreckles Loam, 15 to 30 percent slopes Spreckles Loam, 15 to 30 percent slopes, eroded Spreckles Loam, 30 to 50 percent slopes	Well-drained soils with/derived from tuffaceous sediments (volcanic origin).
Toomes Rocky Loam, 2 to 30 percent slopes Toomes Rocky Loam, 30 to 75 percent slopes	Very shallow and shallow, well- to somewhat excessively-drained soils, formed in material weathered from tuff breccia, basalt and andesite (volcanic origin).
Yolo loam, 0 to 2 percent slopes Yolo silt loam, 0 to 2 percent slopes Yolo clay loam, 0 to 2 percent slopes	Well-drained, moderately permeable soils on uplands. These gently undulating to undulating soils formed in very gravelly loamy sediments.
Zamora silty clay loam, 0 to 2 percent slopes	Well-drained; slow to medium runoff; moderately slow permeability formed in alluvium from material weathered from mixed sedimentary rocks.

3.2.3 Wetlands and Water Features

Depending on characteristics such as topography, vegetation, soils, and hydrologic regime, delineated features are classified into a variety of types. The features documented in the GANDA report were classified into four types: seasonal watercourse, open water, seasonal wetland, and riparian woodland. The eight features mapped within the 230 kV portion of the project during TRC's March 2015 survey included four seasonal watercourses, three drainage ditches, and a riparian woodland (Mark West Creek). Table 2 summarizes the number of features and acreages mapped for each classification. A description of each feature type is provided below.

Table 2: Wetland and Water Features Mapped within the Survey Area

Wetland/Water Feature Type	Number of Occurrences	Total Area (Acres)
Seasonal Watercourse	44	4.38
Open Water	2	0.70
Seasonal Wetland	16	1.32
Riparian Woodland	13	27.87

Wetland/Water Feature Type	Number of Occurrences	Total Area (Acres)
Drainage Ditch	3	0.32
Total	78	34.59

Seasonal Watercourse

Watercourses were defined as areas with a defined bed, bank, and channel. Two types of seasonal watercourses were observed within the survey area: ephemeral channels and intermittent creeks. Ephemeral channels were defined as those seasonal drainages that flow for relatively brief periods after rainfall. Ephemeral channels are typically well defined, but contain variable substrates, including rocks or ruderal/non-native grassland. Intermittent creeks were defined as those seasonal drainages that contain flow derived from both rain water and ground water flow during the wet season; flow in intermittent creeks may extend into late spring or early summer. Intermittent creeks typically support some wetland or riparian vegetation within or surrounding the banks. For resource mapping purposes, the two drainage types were mapped together as seasonal watercourses.

Open Water

Open water was defined as ponds supporting unvegetated standing water. Open water within the GANDA study area consists of two man-made ponds located on private property. Generally, the depth of water in these ponds precludes establishment of emergent vegetation, however, both supported a thick surface cover of mosquito fern (*Azolla* sp.). The boundaries of these features were mapped up to the top of bank, as identified with aerial and topographic maps.

Seasonal Wetland

Seasonal wetlands were defined as depressions, ditches, swales, and other low lying areas that are inundated or support saturated soil conditions for a portion of the growing season, and which support wetland vegetation. Soil conditions of seasonal wetlands within the study area are generally dry in late summer through fall. These wetlands are usually supported by direct precipitation and/or overland flow during the wet season. The vegetation composition and structure of seasonal wetlands is highly variable depending on soil type, hydrology, and disturbance levels. Most of the seasonal wetlands mapped in the GANDA study area were dominated by annual species, but may include some perennial species depending on local hydrology. Common plants in seasonal wetlands within the study area include ryegrass, Harding grass, rushes (*Juncus bufonius*, *J. effusus*, *J. occidentalis*, *J. patens*, and *J. xiphioides*), curly dock (*Rumex cripsus*), hyssop, loosestrife (*Lythrum hyssopifolia*), pennyroyal, ox-tongue (*Helminthotheca echioides*), wild hyacinth (*Triteleia hyacinthina*), and vernal sweet grass (*Anthoxanthum odoratum*). In many areas, regular disturbance by cattle has resulted in invasion of the seasonal wetlands by non-native species and invasive exotics from adjacent habitats. Ponding observed indicates that the potential exists for suitable conditions for seasonal wetland habitats to develop in these areas in the absence of regular disturbance.

Seasonal wetlands are widely distributed throughout the survey area and are found in both natural and man-made settings. In many locations, seasonal watercourses that expand into broad terraces and support characteristic seasonal wetland vegetation were mapped as seasonal wetlands based on the wetland community type. Additionally, seasonal wetlands have developed in topographical depressions adjacent to watercourses and open water in areas where overland storm water runoff accumulates prior to passing into the watercourse. Seasonal

wetlands are present within and adjacent to access roads and in the vicinity of several power poles.

Riparian Woodland

Riparian woodlands were defined as areas that support a tree canopy present in association with an intermittent creek. Riparian woodlands in the GANDA study area can be contiguous with upland oak woodland communities, or present as a thin band of tree canopy along small, seasonal watercourses. Although the composition of the vegetative community in some of the study area locations is primarily affiliated with upland communities, all canopy present along watercourses was identified as riparian woodland. The tree canopy of riparian woodlands is dominated by coast live oak, interior live oak, and/or valley oak, and includes riparian species such as arroyo willow and red willow, big-leaf maple, California buckeye, and California bay. Riparian woodlands are found along watercourses throughout the survey area.

Drainage Ditch

Drainage ditches were defined as man-made features created for the sole purpose of collecting and conveying surface water runoff associated with developed land. All three drainage ditches mapped within the survey area are located adjacent to the Fulton Substation. Two narrow ditches collect runoff from the substation and the adjacent vineyard and flow into a wider ditch that coveys flows south and east around the perimeter of the substation before flowing under Mark West Spring Road. The narrow ditches are relatively devoid of vegetation while the wider ditch supports a variety of wetland herbaceous species such as curly dock and spikerush (*Eleocharis* sp.).

3.3 FORMALLY DELINEATED FEATURES

The two features assessed as part of the formal wetland delineation are seasonal wetlands. The wetland determination forms that were used to help determine the limits of the wetland features are included in Attachment F and representative photographs are included in Attachment G.

Seasonal wetland SW1 is 0.13 acre in size and located a quarter-mile west of the power line, adjacent to Mount Weske Drive. An existing access road bisects the wetland and temporary impacts may occur during project construction. The wetland is fairly well-defined and supports a wetland plant community dominated by rushes, pennyroyal, tall nutsedge, and perennial ryegrass (*Lolium perenne*). The western edge of this feature connects with a seasonal watercourse that flows along the edge of the existing access road that was not included in the GANDA report because: 1) it is not within 250 feet of the power line; and 2) it is not crossed by a proposed access road. However, due to its proximity to the access road, this seasonal watercourse is being addressed in this report to help ensure avoidance during project planning and implementation.

Seasonal wetland SW3 is a very shallow, linear depression within the existing access road for pole 6/0. The wetland is 0.04 acre in size and may be temporarily impacted during construction by a proposed pull site/staging area. This is a very marginal wetland given its very discrete boundaries and marginal wetland plant community comprised of perennial ryegrass, quaking grass (*Briza media*), and widely scattered rushes.

4.0 CONCLUSIONS

The two seasonal wetland features expected to be temporarily impacted by project-related construction are 0.13 acre and 0.04 acre in size. The two delineated wetlands along with the other nine features located near project-related disturbance areas are depicted on the graphics included as Attachment C. The acreages and coordinates for all 78 wetland and water features mapped within the survey area are listed in Attachment D.

To help expedite the permitting process with the Corps, the project proponent has determined that a Preliminary Jurisdictional Determination form will be submitted to the Corps as part of the application package. The form essentially grants jurisdiction of all wetlands and water features to the Corps for the project, and avoids any extensive jurisdictional analysis by the Corps. The use of a Preliminary Jurisdictional Determination form does not result in a legally binding determination regarding jurisdiction over any wetlands or water features, meaning the project proponent, land owner, or other affected party can request an official jurisdictional determination (i.e., Approved Jurisdictional Determination form) at any time in the future if necessary.

5.0 REFERENCES

Garcia and Associates. 2012. *Draft Biological Resources Technical Report for Pacific Gas & Electric's Fulton-Fitch 60kV Power Line Reconductor Project*. Auburn, CA.

Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey for Sonoma County, California. Online: http://websoilsurvey.nrcs.usda.gov. Site accessed October 30, 2012.

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.

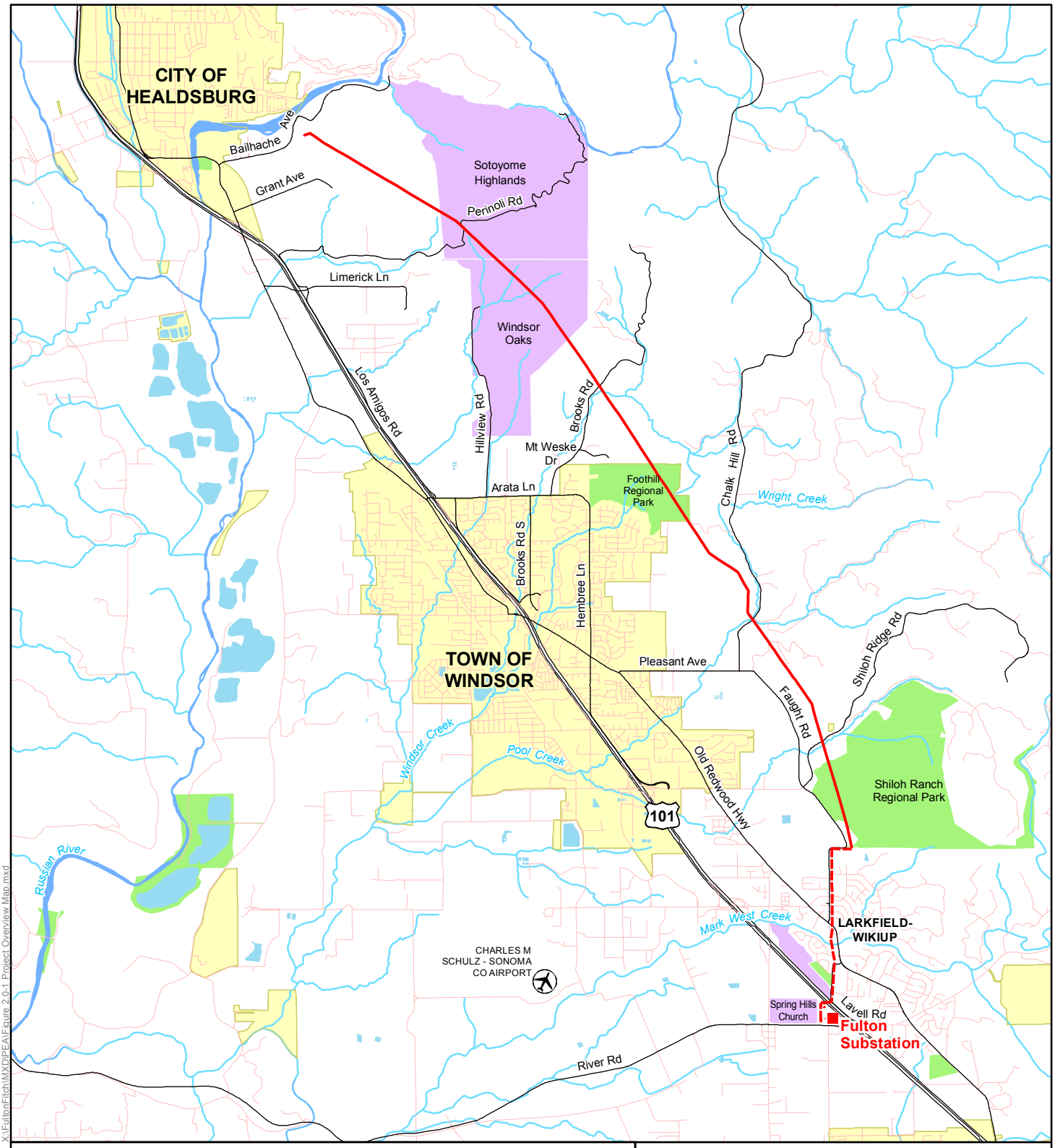
_____. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

_____. 2012. *North American Digital Flora: National Wetland Plant List*, (Version 3.0), R. W. Lichvar and J. T. Kartesz, Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH and BONAP, Chapel Hill, NC. Available online at http://wetland_plants.usace.army.mil.

U.S. Fish and Wildlife Service. 2005. Santa Rosa Plain Conservation Strategy. Available online at http://www.fws.gov/sacramento/ES/Recovery-Planning/Santa-Rosa/es_recovery_santa-rosa-strategy.htm.

U.S. Geological Survey. 1993. *Healdsburg, California* 7.5-minute series topographic quadrangle. U.S. Department of the Interior.

Attachment A: Site and Vicinity Map



- Fulton Substation
- GANDA Study Area
- TRC Study Area
- Conservation Easement
- Regional Park
- City Limits

Attachment A

Site and Vicinty Map
Fulton-Fitch Mountain Reconductoring Project

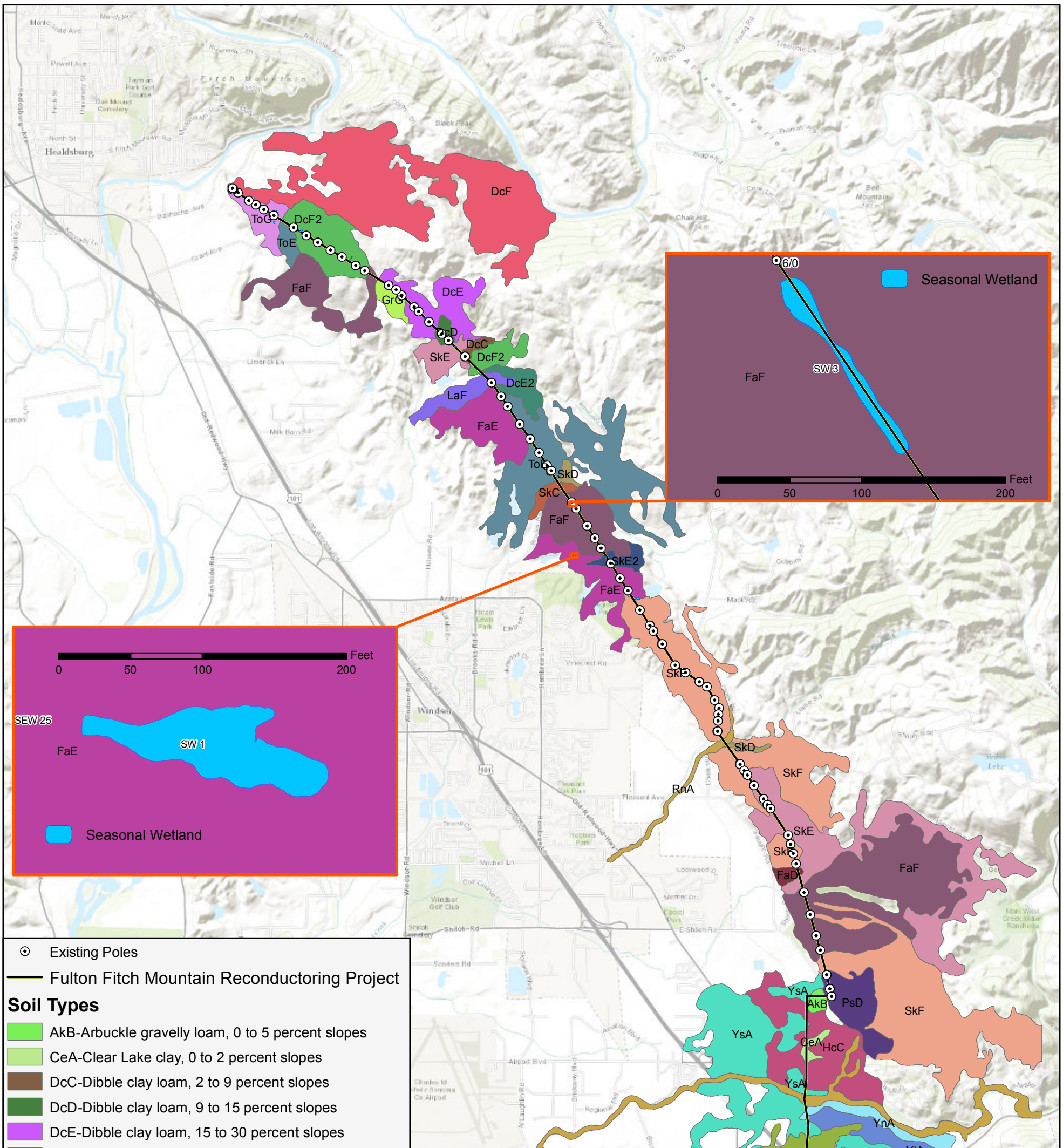
1:75,000
0 0.5 1 Miles

N

PG&E

6/21/2015

Attachment B: Soils Map



Attachment B - Soils Map

Fulton - Fitch Mountain Reconductoring Project

5/28/2014

1 centimeter = 500 meters

1:50,000

0 0.5 1 2 Miles

N

TRC

Attachment C: Wetland Delineation Maps

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

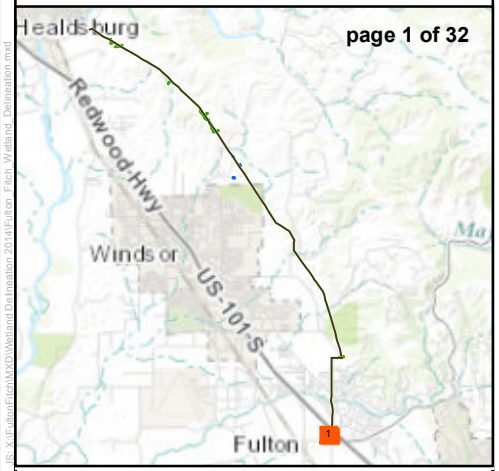
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

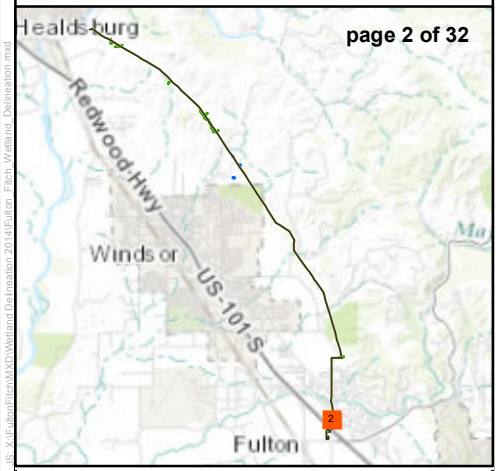
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

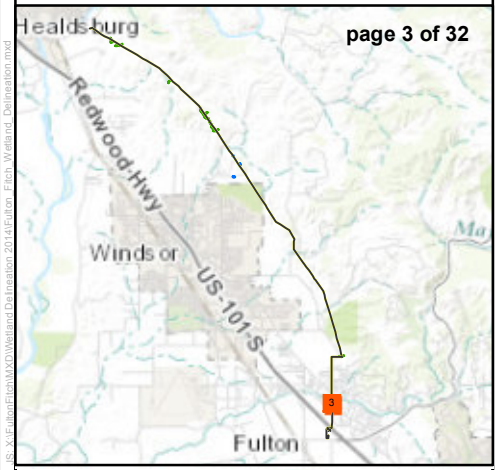
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

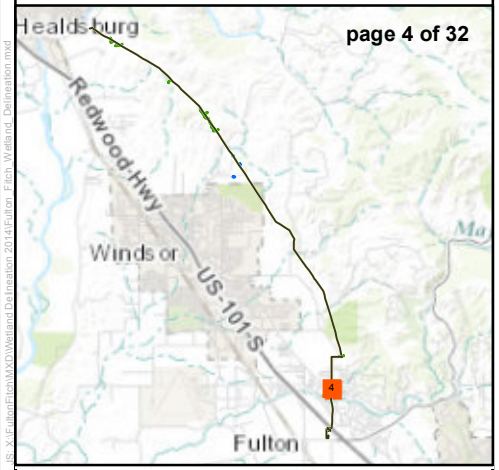
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

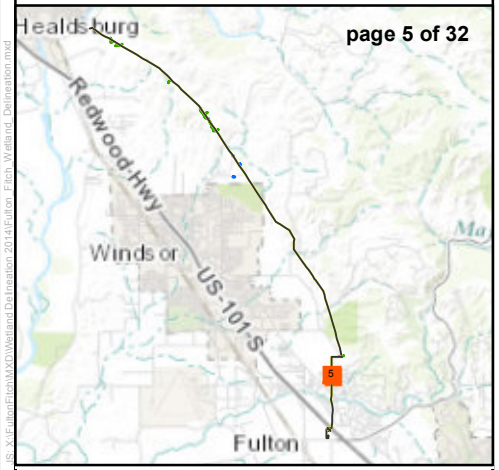
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

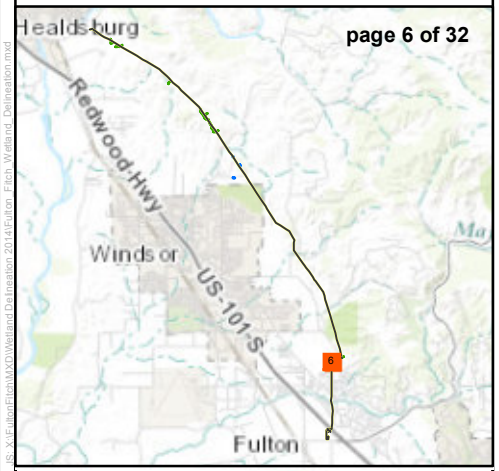
5/8/2015

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

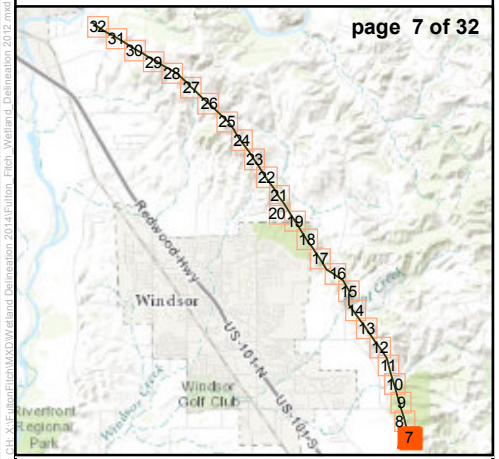
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

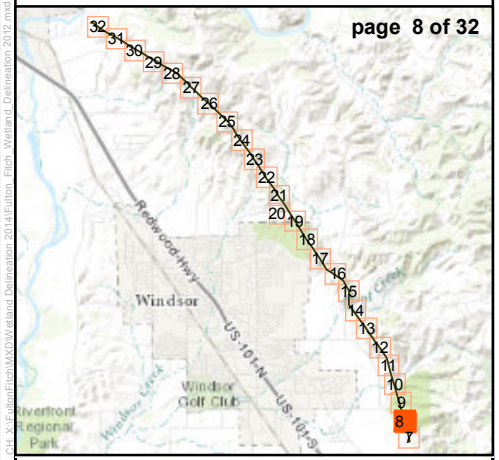
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

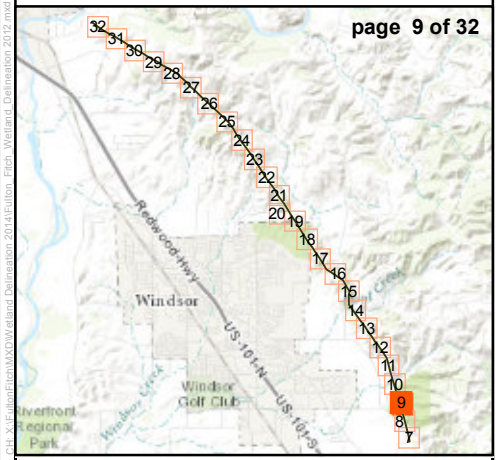
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

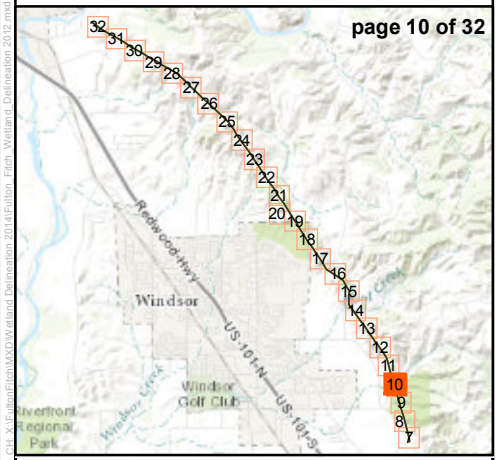
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

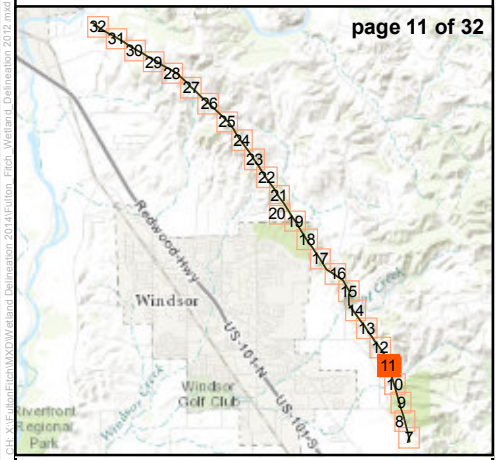
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

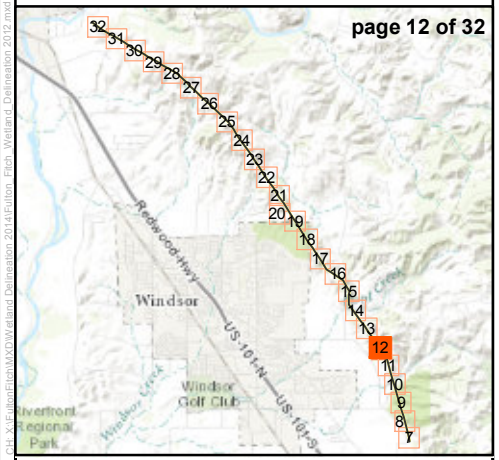
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

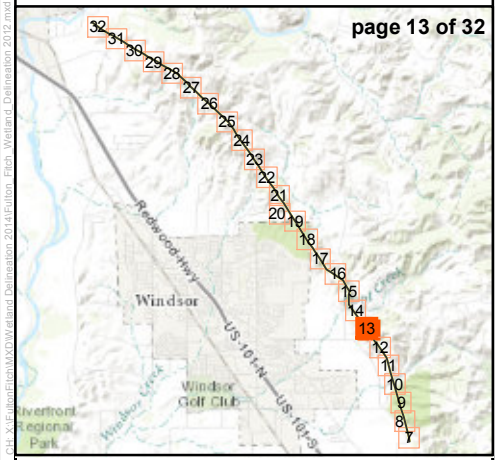
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

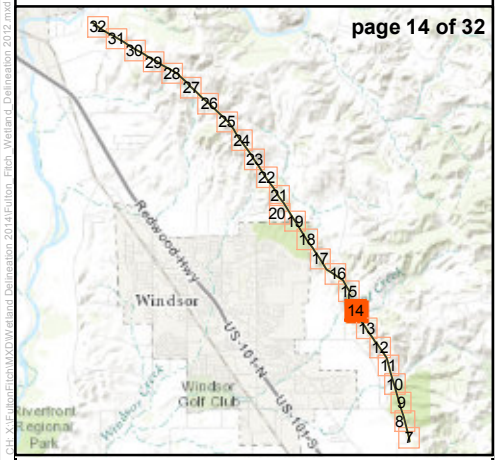
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

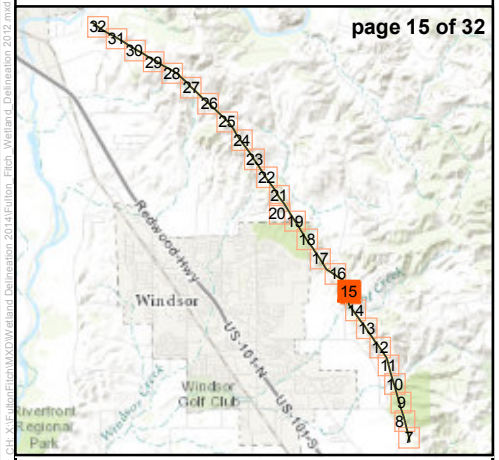
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

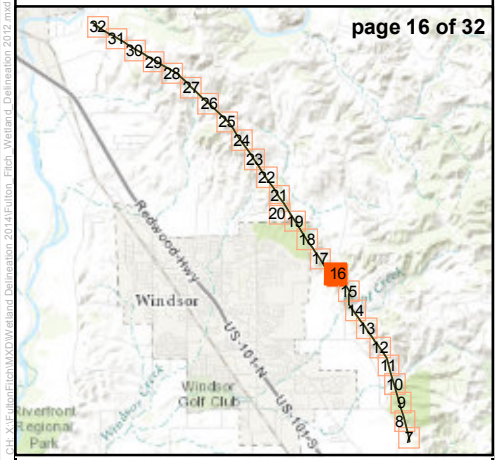
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

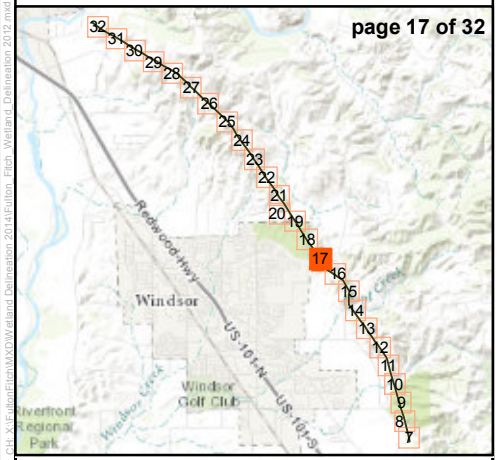
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

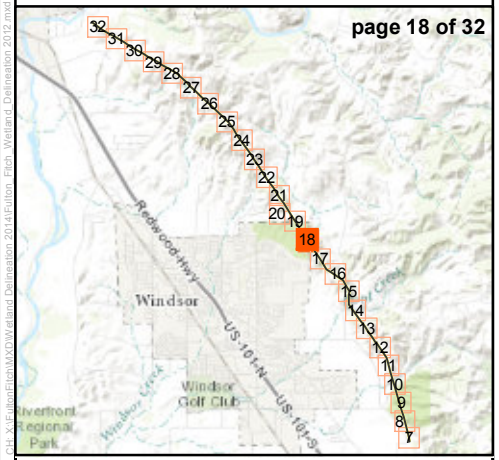
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

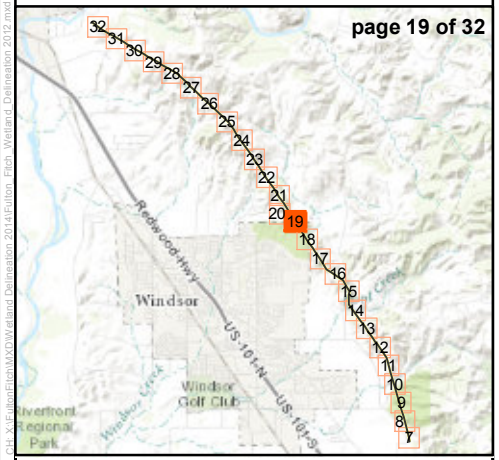
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

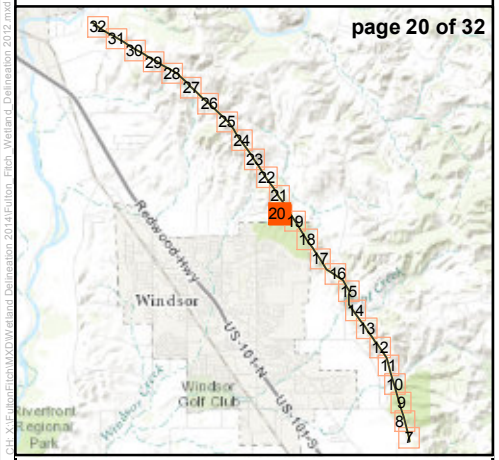
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

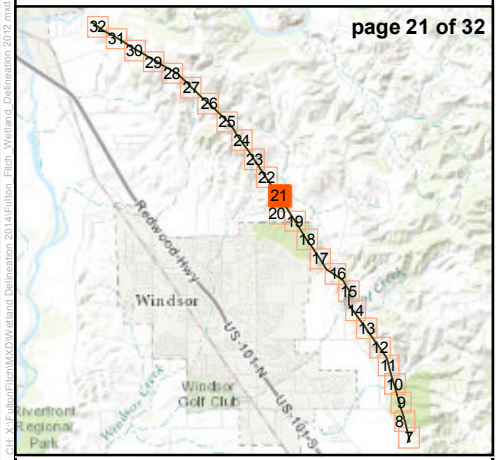
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

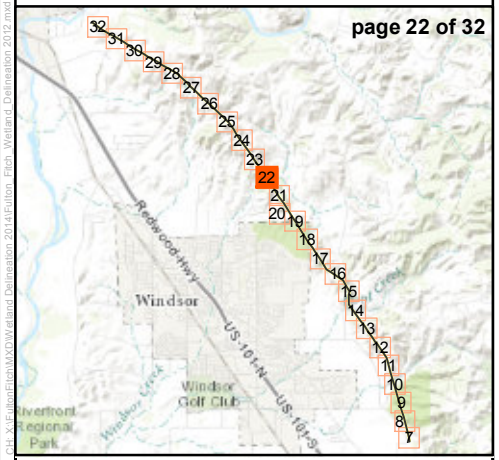
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

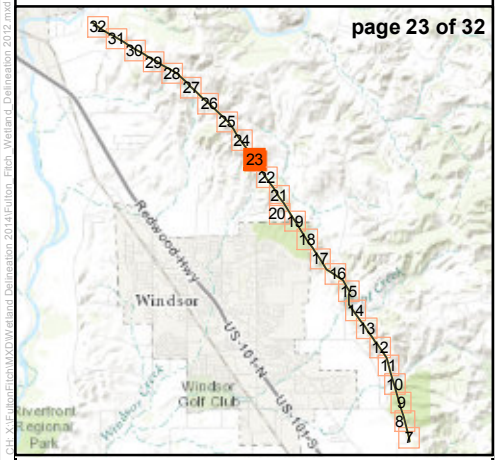
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

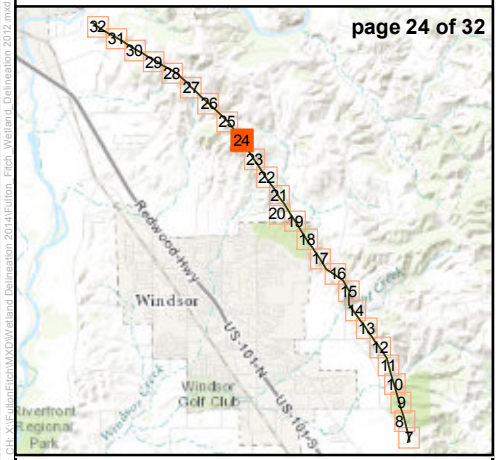
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

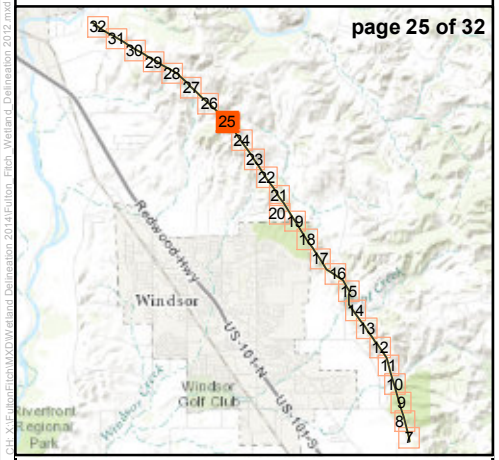
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

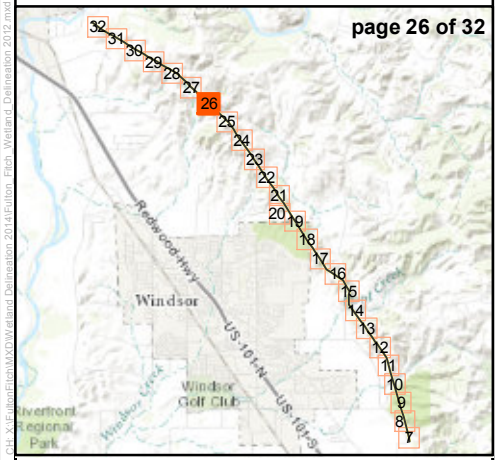
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

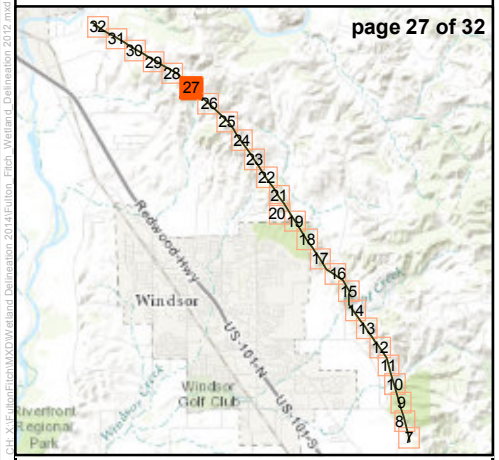
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

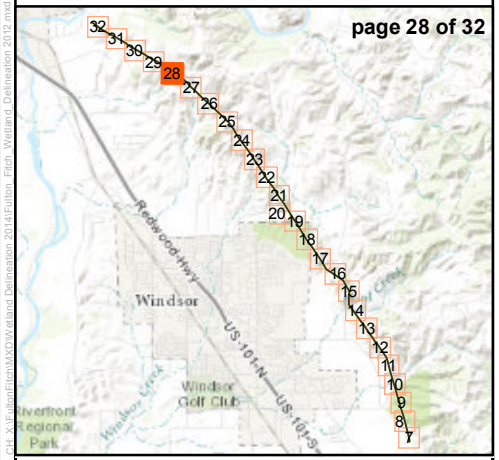
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

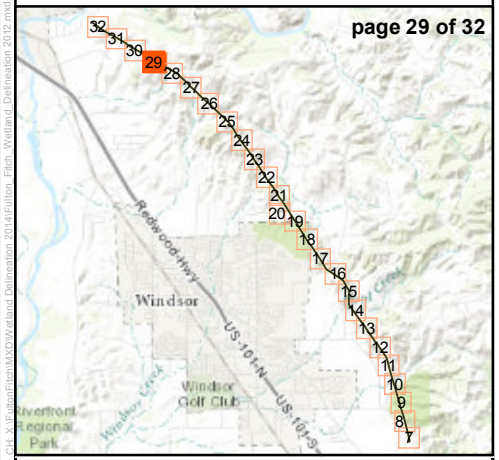
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

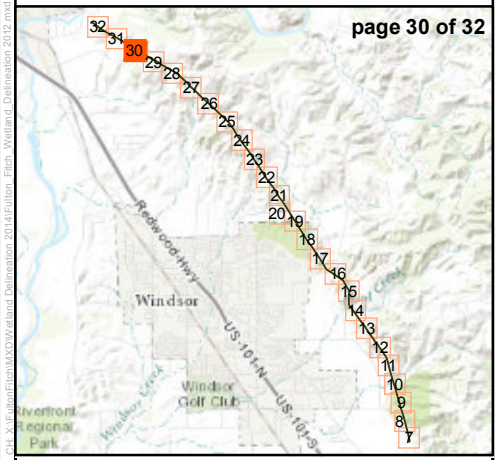
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

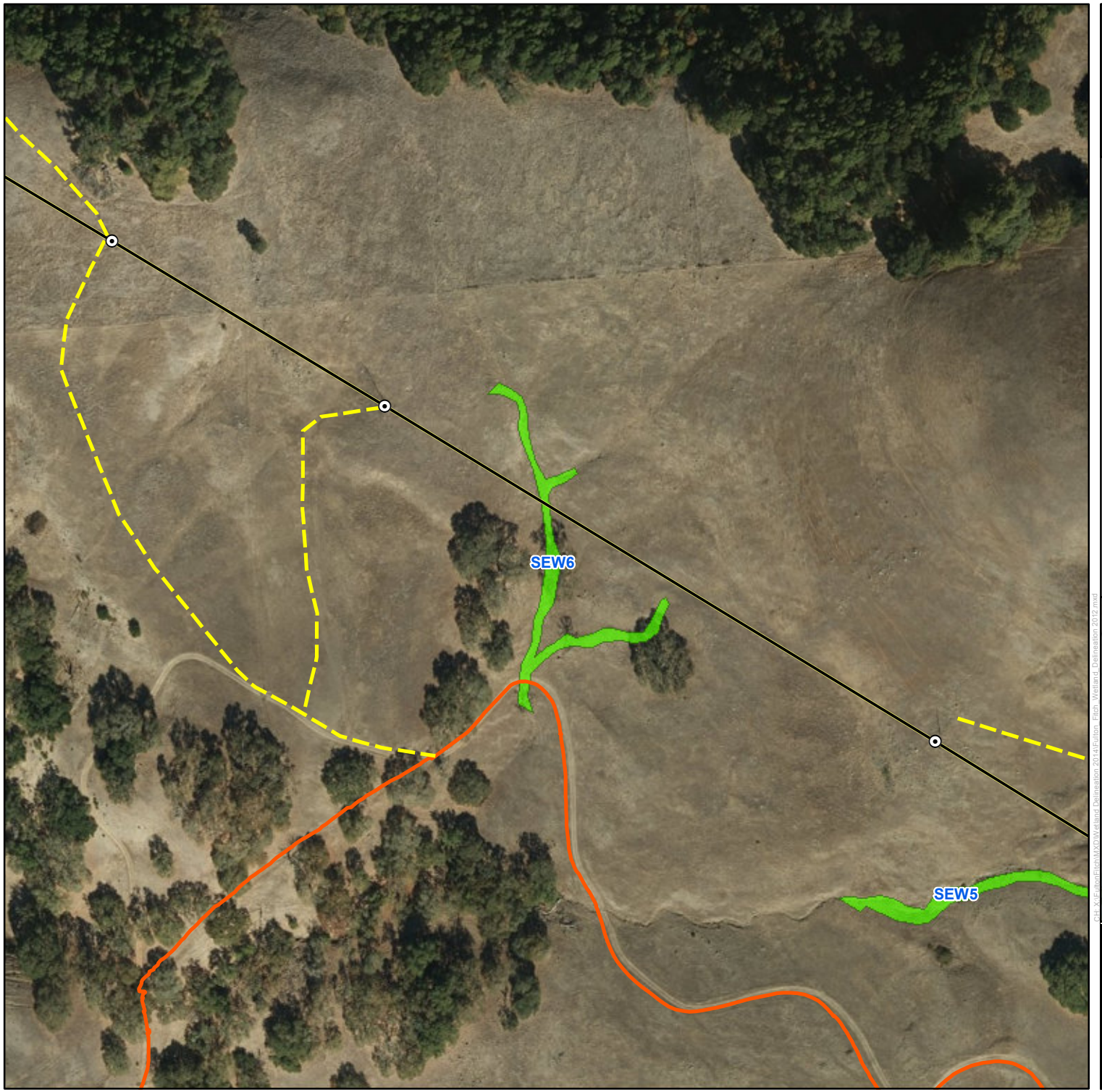
0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

11/19/2012

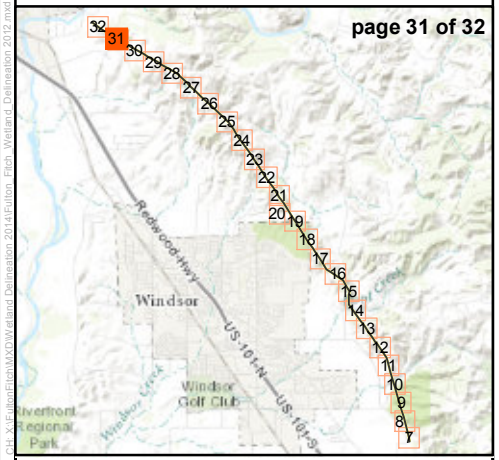


- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment C - Wetland Delineation

Fulton - Fitch Mountain Reconductoring Project

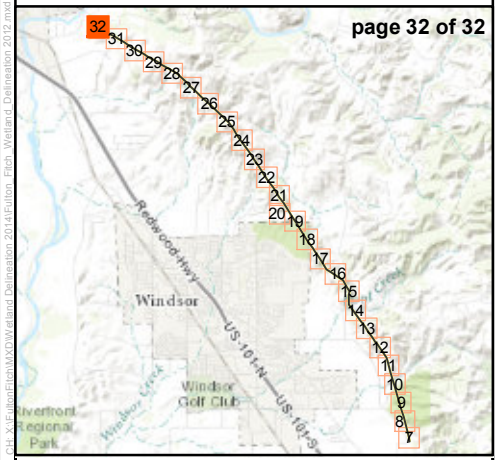
11/19/2012

- Existing Poles
- Upland Data Point
- Wetland Data Point
- Fulton Fitch Mountain Project
- Features with Proposed Impacts

Wetland and Water Features

Total acreage for all features - 1.38

- SEW-Seasonal Watercourse (1.18 ac)
- SW-Seasonal Wetland (0.20 ac)
- Existing access route (may require improvements)
- Overland access route



N

TRC Results you can rely on

Project particulars are preliminary and subject to change.

1:2,400

0 100 200 400 ft

Overland access routes are provided to establish a centerline for the survey corridor and are subject to change

Attachment D: Wetland and Water Feature Acreage and Coordinates Table

Wetland and Water Feature Acreages and Coordinates Table

Feature	Acreage	Impact	Included On Wetland Delineation Map	Latitude	Longitude
OW1	0.44	none proposed	no	38.53805908	-122.764629
OW2	0.26	none proposed	no	38.54092695	-122.7663847
RIWO1	0.67	none proposed	no	38.52132401	-122.7579632
RIWO2	1.79	none proposed	no	38.52563988	-122.7592708
RIWO3	1.04	none proposed	no	38.52881028	-122.7608627
RIWO4	1.61	none proposed	no	38.53126965	-122.7607958
RIWO5	1.00	none proposed	no	38.54646512	-122.7716385
RIWO6	1.92	none proposed	no	38.54691651	-122.7726454
RIWO7	1.16	none proposed	no	38.55584794	-122.7804394
RIWO8	2.08	none proposed	no	38.57492422	-122.7959284
RIWO9	2.83	none proposed	no	38.58724262	-122.8076588
RIWO10	3.81	none proposed	no	38.5892273	-122.8097978
RIWO11	2.19	none proposed	no	38.59318158	-122.8150534
RIWO12	4.05	none proposed	no	38.59706209	-122.8209845
RIWO 13	3.76	none proposed	no	38.5067387	-122.7605035
SEW1	0.03	none proposed	yes	38.51868943	-122.756517
SEW2	0.09	none proposed	yes	38.57932324	-122.7996663
SEW3	0.42	none proposed	yes	38.58355364	-122.8038446
SEW4	0.08	none proposed	yes	38.58400487	-122.8031276
SEW5	0.30	none proposed	yes	38.60221367	-122.8333603
SEW6	0.27	none proposed	yes	38.60321102	-122.8352821
SEW7	0.00	none proposed	yes	38.56684212	-122.7922881
SEW8	0.00	none proposed	yes	38.59190876	-122.81506
SEW9	0.09	none proposed	no	38.51917006	-122.7571699
SEW 9A	0.48	none proposed	no	38.51855603	-122.7619325
SEW10	0.07	none proposed	no	38.51999826	-122.7571732
SEW11	0.06	none proposed	no	38.5221069	-122.7577442
SEW12	0.10	none proposed	no	38.53673966	-122.763389
SEW13	0.06	none proposed	no	38.54054001	-122.7667212
SEW14	0.05	none proposed	no	38.54100267	-122.7670547
SEW15	0.10	none proposed	no	38.55048149	-122.7733763
SEW16	0.04	none proposed	no	38.55132263	-122.7734822
SEW17	0.04	none proposed	no	38.55167527	-122.773904
SEW18	0.07	none proposed	no	38.55210917	-122.7739867
SEW19	0.04	none proposed	no	38.55283871	-122.7747616
SEW20	0.06	none proposed	no	38.55340452	-122.7762307
SEW21	0.07	none proposed	no	38.55362845	-122.7766712
SEW22	0.04	none proposed	no	38.56109641	-122.7845596
SEW23	0.11	none proposed	no	38.56377652	-122.7868861
SEW24	0.10	none proposed	no	38.56536132	-122.788112
SEW25	0.01	none proposed	no	38.5669458	-122.793994
SEW26	0.03	none proposed	no	38.56870736	-122.7914579
SEW27	0.13	none proposed	no	38.57138625	-122.7927436
SEW28	0.11	none proposed	no	38.57666258	-122.7965079

Feature	Acreage	Impact	Included On Wetland Delineation Map	Latitude	Longitude
SEW29	0.05	none proposed	no	38.57861633	-122.7995479
SEW30	0.02	none proposed	no	38.57974527	-122.8003814
SEW31	0.02	none proposed	no	38.58472822	-122.8047863
SEW32	0.08	none proposed	no	38.58651163	-122.8062739
SEW33	0.10	none proposed	no	38.59253318	-122.8136029
SEW34	0.10	none proposed	no	38.59248306	-122.813783
SEW35	0.08	none proposed	no	38.59400387	-122.815907
SEW36	0.12	none proposed	no	38.5948743	-122.8171542
SEW37	0.04	none proposed	no	38.59517981	-122.8169975
SEW38	0.19	none proposed	no	38.59914554	-122.8258289
SEW39	0.22	none proposed	no	38.59983594	-122.8273006
SEW40	0.19	none proposed	no	38.60110712	-122.8301178
SEW 41	0.10	none proposed	no	38.51762471	-122.7592242
SEW 42	0.03	none proposed	no	38.51622755	-122.7608721
SEW 43	0.10	none proposed	no	38.49986892	-122.7622176
SW1	0.13	proposed	yes	38.56689241	-122.7935301
SW2	0.03	none proposed	yes	38.57021495	-122.7913769
SW3	0.04	proposed	yes	38.57270684	-122.7939208
SW4	0.28	none proposed	no	38.56218471	-122.7846048
SW5	0.01	none proposed	no	38.56670459	-122.7889823
SW6	0.03	none proposed	no	38.56685425	-122.7892824
SW7	0.09	none proposed	no	38.58985295	-122.8105458
SW8	0.01	none proposed	no	38.59050011	-122.8114916
SW9	0.15	none proposed	no	38.59290674	-122.8147642
SW10	0.07	none proposed	no	38.59962688	-122.8252346
SW11	0.02	none proposed	no	38.59971374	-122.8264041
SW12	0.02	none proposed	no	38.60064822	-122.8282722
SW13	0.17	none proposed	no	38.60244232	-122.8324387
SW14	0.11	none proposed	no	38.60338668	-122.8361901
SW15	0.13	none proposed	no	38.60444849	-122.8358364
SW16	0.05	none proposed	no	38.60418935	-122.8363734
D1	0.30	none proposed	no	38.49732882	-122.7619197
D2	0.01	none proposed	no	38.49868255	-122.7621509
D3	0.01	none proposed	no	38.49861094	-122.7624613

Attachment E: Plant Species Observed During Wetland Delineation

Attachment E
Plant Species Observed During Wetland Delineation

Scientific Name	Common Name	Indicator Status*
Arctostaphylos sp.	Manzanita	FACU-UPL
Avena fatua	Wild Oats	UPL
Baccharis pilularis	Coyote brush	UPL
Briza media	Quaking grass	FAC
Bromus diandrus	Ripgut brome	UPL
Bromus hordeaceus	Soft chess	FACU
Cynodon dactylon	Bermuda grass	FACU
Cynosurus echinatus	Dogtail grass	UPL
Cyperus eragrostis	Tall nutsedge	FACW
Juncus spp.	Rushes	FACW-OBL
Juncus xiphioides	Iris-leaved rush	OBL
Lolium perenne	Perennial ryegrass	FAC
Mentha pulegium	Pennyroyal	OBL
Phalaris aquatica	Harding grass	FACU
Polypogon monspeliensis	Rabbit-foot grass	FACW
Quercus douglasii	Blue oak	UPL
Rubus armeniacus	Himalayan blackberry	FACU

*Indicator status based on the Corps' 2012 National Wetland Plant List for the Arid West Region.

Attachment F: Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 1a

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C – Mediterranean California Lat: 38.566890° Long: -122.793769° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 15-30% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Data point taken within seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Lolium perenne	40	Yes	FAC
2. Mentha pulegium	30	Yes	OBL
3. Phalaris aquatica	25	Yes	FACU
4. Cynodon dactylon	5	No	FACU
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 3/1	90	5YR 4/6	2	C	M		gravelly loam texture

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

gravel occurs throughout soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 1b

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C – Mediterranean California Lat: 38.566890° Long: -122.793769° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 15-30% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Data point was taken upslope from data point 1a within access road.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Cynosurus echinatus	30	Yes	UPL
2. Phalaris aquatica	10	No	FACU
3. Briza media	5	No	FAC
4. Cynodon dactylon	5	No	FACU
5. Bromus hordeaceus	5	No	FACU
6. Unidentifiable grasses	45	Yes	UPL
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Unidentifiable grasses consisted of short grasses just starting to germinate and assumed to be Cynosurus echinatus given the abundance of this species within the plot. There is no evidence of a dominant hydrophytic plant community within the plot.

SOIL

Sampling Point: 1b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 3/2	90	N/A					gravelly loam texture

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No evidence of hydric soil indicators. Gravel occurs throughout soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators present. Soil pit was dug on elevated access road above data point 1a.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 2a

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C – Mediterranean California Lat: 38.566890° Long: -122.793769° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 15-30% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Data point taken within seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Lolium perenne	80	Yes	FAC
2. Mentha pulegium	5	No	OBL
3. Cyperus eragrostis	5	No	FACW
4. Unidentifiable grasses	10	No	FAC
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Unidentifiable grasses consisted of short grasses just starting to germinate and assumed to be Lolium perenne given the abundance of this species within the plot.

SOIL

Sampling Point: 2a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 3/1	90	5YR 4/6	2	C	M		gravelly loam texture

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

gravel occurs throughout soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✓ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 2b

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C – Mediterranean California Lat: 38.566890° Long: -122.793769° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 15-30% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:

Data point was taken upslope from data point 2a.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Briza media	30	Yes	FAC
2. Cynosurus echinatus	30	Yes	UPL
3. Lolium perenne	30	Yes	FAC
4. Unidentifiable grasses	10	No	?
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Unidentifiable grasses consisted of short grasses just starting to germinate and could be any of the species identified within the plot.

SOIL

Sampling Point: 2b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 3/2	90	N/A					gravelly loam texture

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No evidence of hydric soil indicators. Gravel occurs throughout soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators present. Soil pit was dug upslope from data point 2a.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 3a

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): C – Mediterranean California Lat: 38.572670° Long: -122.793928° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 30-50% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

Data point taken within a very shallow linear depression created by vehicles accessing utility pole.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Lolium perenne	35	Yes	FAC
2. Briza media	30	Yes	FAC
3. Cynosurus echinatus	15	No	UPL
4. Juncus sp.	10	No	FACW
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Juncus species could not be identified but it was assumed to be at least FACW. This feature supports a very marginal wetland plant community.

SOIL

Sampling Point: 3a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 5/1	100	N/A				silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ✓ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The shallow depressional nature of the feature and existing clay soils suggest water collects within the feature temporarily.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Fulton-Fitch Reconductoring Project City/County: Windsor/Sonoma Sampling Date: 11/2/12

Applicant/Owner: Pacific Gas & Electric Company State: CA Sampling Point: 3b

Investigator(s): Julie Allison and Mike Farmer Section, Township, Range: Section 6, Township 8N, Range 9W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): C – Mediterranean California Lat: 38.572670° Long: -122.793928° Datum: WGS84

Soil Map Unit Name: FaE - Felta very gravelly loam, 30-50% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks:

Data point taken within a very shallow linear depression created by vehicles accessing utility pole.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3-foot radius)			
1. Cynosurus echinatus	65	Yes	UPL
2. Briza media	35	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 5/1	100	N/A				silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology present. Data point was taken outside of shallow linear depression where land starts to slope away from feature.

Attachment G: Representative Photographs of Delineated Wetlands

Attachment G
Representative Photographs of Delineated Wetlands

View of seasonal wetland #1 looking west. Red line represents existing access road.
Photo Date: November 2, 2012

View of seasonal wetland #1 looking east. Red line represents existing access road.
Photo Date: November 2, 2012

Attachment G
Representative Photographs of Delineated Wetlands

View of southern portion of seasonal wetland #3.
Photo Date: November 2, 2012

View of northern portion of seasonal wetland #3.
Photo Date: November 2, 2012