October 2015

# PACIFICORP

## **Lassen Substation**

Jurisdictional Delineation Report



**PROJECT NUMBER:** 136412

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Jurisdictional Delineation Report

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## 1.0 INTRODUCTION

At the request of PacifiCorp, POWER Engineers, Inc. (POWER) conducted a delineation of wetlands and other waters of the United States and the State of California in support of the Lassen Substation Project (Project). The Lassen Substation Project is located west of and within the City of Mt. Shasta, Siskiyou County, California (see Figure 1) in Township 40 North, Range 4 West, Sections 16, 17, and 21.

On September 15 and 16, 2011 and on July 15 and 16, 2015 POWER biologists Allison Carver and Melissa Lippincott conducted a field investigation of the proposed areas of disturbance based on the current project description and existing right-of-way (ROW) to determine the presence of potentially jurisdictional waters of the U.S. (including wetlands) that would likely be subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. This report documents the delineation process and results.

## 2.0 PROPOSED PROJECT

## 2.1 **Project Description**

PacifiCorp proposes to replace the existing Mt. Shasta Substation with a new substation, Lassen Substation, on a site adjacent to the existing Mt. Shasta Substation. The proposed Lassen Substation site consists of two parcels (APN 036-220-280 and APN 036-220-170) comprising approximately 4.5 acres. The existing substation would be removed once the Lassen Substation is operational.

As part of the proposed Project, 36 existing wood poles along the existing 69 kV transmission line (Line 2, approximately 1.5 linear miles) would be replaced to accommodate an upgraded distribution underbuild conductor and to comply with the California Code of Regulations, Title 8 and CPUC GO-95 load requirements. The transmission line would operate at 69 kV, but would be constructed as a 115 kV transmission line. The proposed Project would increase capacity to meet current and future projected demand.

The Project also includes upgrades to the existing distribution system to meet current capacity requirements and to meet future load growth. The distribution lines would be upgraded from a 4.16 kV line to a 12.47 kV line. The distribution lines would be partially reconductored and the 12.47 kV distribution lines would be reconnected in a new configuration to receive supply from three breakers at the proposed Lassen Substation. As part of the distribution line upgrade, approximately 1,200 feet of underground cable would be installed to increase capacity of an existing underground line.

Project components, including the existing Mt. Shasta Substation site, the new Lassen Substation site, the transmission line route alignment, and the pole replacement locations are depicted on Figure 2, Project Overview.

PacifiCorp is proposing to:

- Construct a new Lassen Substation.
- Replace 36 transmission wood poles on Line 2 with upgraded wood poles framed for 115kV and distribution underbuild.
- Install three new wood poles to connect the existing transmission system to the new Lassen Substation.
- Connect the existing transmission lines from the existing substation into the new substation through installation of 200 feet of overhead line.

- Connect the cable pulling vault to the existing distribution system through installation of three 300-foot underground conduits.
- Install three underground distribution circuits from cable pulling vault to a new underground/overhead transition pole.
- Reconductor two existing distribution lines.
- Install three 12.5 to 4.16kV stepdown transformers on existing poles in Mt. Shasta.
- Install an underground distribution cable approximately 1,200 feet to increase capacity of an existing underground line.
- Remove the existing Mt. Shasta Substation.

## 2.2 **Project Location**

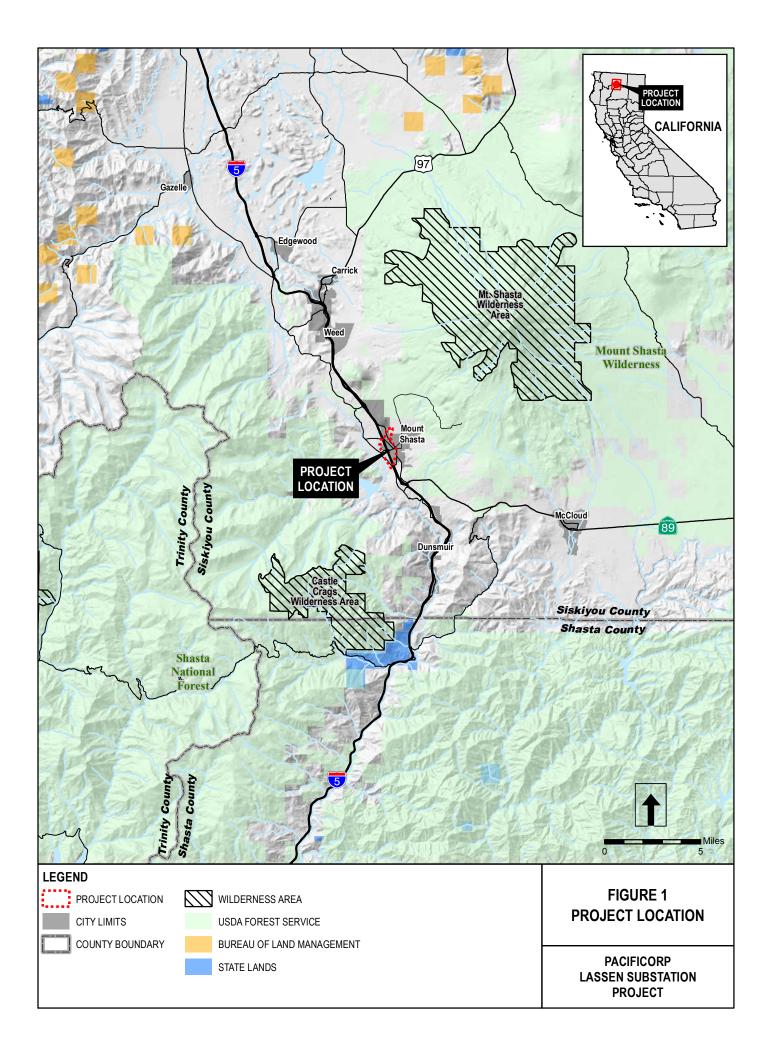
The Project is located in an unincorporated part of Siskiyou County, in northern California, and within portions of the City of Mt. Shasta. The existing Mt. Shasta Substation (located at 404 South Old Stage Road, Mt. Shasta, California) and the proposed Lassen Substation site are located west of Interstate 5 (I-5), in the south-central portion of Siskiyou County. The proposed Lassen Substation site is mapped in Township 40 North, Range 04 West, Section 21 northwest quadrant, of the City of Mount Shasta Quadrangle of the U.S. Geological Survey (USGS) 7.5-Minute Topographic Series (41°18'18.26" N 122°19'13.24" W). The entire Lassen Substation Project is located in Township 40 North, Range 4 West, Sections 16, 17, and 21.

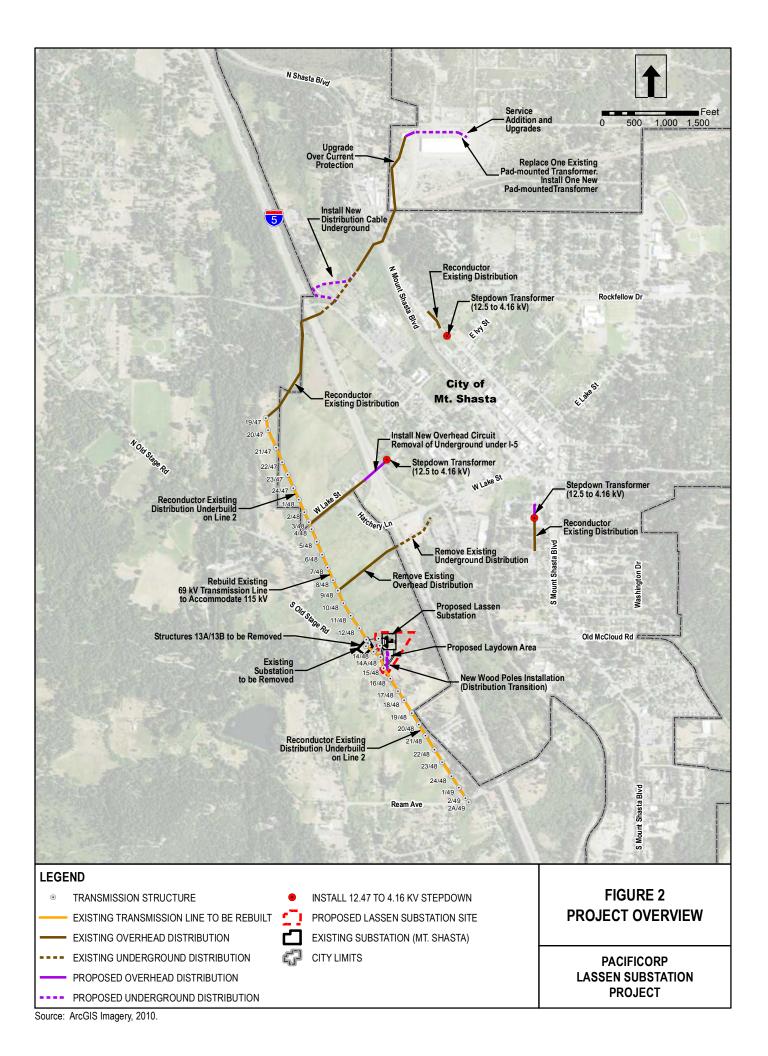
The transmission line upgrade spans a distance of approximately 1.5 miles, from pole 19/47 north of the existing substation to pole 2/49 at West Ream Avenue, south of the existing substation. The reconductoring of existing distribution lines begins at pole 20/47 and continues north/northeast for approximately one mile to pole 093407; the second distribution line to be reconductored begins at pole 160304, on the northern edge of Hatchery Lane and approximately 40 feet south of pole 4/48. This second distribution line runs northeast along Hatchery Lane and West Jessie Street, and will cross I-5 to end at existing distribution pole 162400. Two additional reconductor segments (approximately 500 feet and 350 feet in length, respectively) will occur on developed city streets within the City of Mt. Shasta, on Mill Street and Chestnut Street.

The idle distribution line to be removed runs adjacent to the northern bank of Cold Creek beginning at transmission pole 9/48, crossing beneath I-5 and ending at distribution pole 163380 southeast of the intersection of the northbound I-5 off-ramp and East Lake Street.

Land uses in the Project area are primarily rural residential, residential, light commercial, agricultural, and forest-related. The physical address for the proposed site for the new Lassen substation is 504 South Old Stage Road, City of Mt. Shasta, California. The property is identified as Siskiyou County Assessor's Parcel Number (APN) 036-220-280.

PacifiCorp has acquired a second property located at 506 South Old Stage Road (APN 036-220-170). While this property was purchased to avoid potential impacts to adjacent residents, PacifiCorp would use this site as the material laydown yard during construction of the proposed Project, to reduce construction-related vehicle traffic on local roads.





## 3.0 REGULATORY FRAMEWORK

The Project must comply with various federal, state, and local laws; those that apply to the proposed Project are described below.

### 3.1 Federal

**Section 404 Clean Water Act.** Waters of the U.S. including wetlands are subject to USACE jurisdiction under Section 404 of the CWA. A Section 404 permit is required for the discharge of dredged or fill material into Waters of the U.S. The Sacramento District of the USACE would provide review and permitting services for this Project.

*Definition of the Waters of the United States.* Waters of the U.S., as applied to the jurisdictional limits of the authority of the USACE under the CWA, is defined in 33 CFR Part 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The 1987 *Corps of Engineers Wetlands Delineation Manual* required that wetlands possess the following characteristics: 1) the prevalent vegetation be comprised of hydrophytic species; 2) soils may be classified as hydric, or soils possess characteristics that are associated with reducing soils conditions; and 3) hydrologic conditions are present in that the area is inundated either permanently or periodically at mean water depths less than or equal to6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

Following the Supreme Court's decision in the consolidated cases Rapanos v. United States (2006) and Carabell v. United States (2006) (referred to as "Rapanos"), the jurisdiction of Waters of the U.S. was refined, giving the USACE jurisdiction over specific waters such as traditional navigable waters, tributaries of traditional navigable waters, and wetlands that abut both types of waters (USACE and USEPA 2007).

In June 2015 the Environmental Protection Agency (EPA) and the USACE jointly published a final rule defining the scope of waters and wetlands protected under the CWA in light of the statute, science, the Rapanos decision, and the agencies' experience and technical expertise (Final Rule; EPA and USACE 2015). This final rule clarifies the scope of "waters of the United States" protected under the CWA to include:

- Traditional navigable waters (TNW), interstate waters, and the territorial seas (known water of the U.S.)
- Impoundments of jurisdictional waters
- Covered *tributaries* (tributaries to TNWs, interstate waters, territorial seas)
- Covered *adjacent waters* (adjacent to TNWs, interstate waters, territorial seas, impoundments, covered tributaries)
- Certain waters with a significant nexus to a TNW, an interstate water, or a territorial sea (e.g., vernal pools, prairie potholes)
- All waters with a significant nexus to a TNW, an interstate water, or a territorial sea that are located either:
  - o Within the 100-year floodplain of a TNW, interstate water, or territorial sea
  - Within 4,000 feet of the high tide line or ordinary high water mark of a TNW, interstate water, territorial sea, impoundment, or covered tributary

The final rule defines covered tributaries as:

- A water that contributes flow, either directly or indirectly, or through another water to a known water of the U.S.
- A water that is characterized by the presence of the physical indicators of a bed and bank, and an ordinary high water mark (OHWM).

Covered tributaries may be perennial, intermittent, or ephemeral.

The final rule defines covered adjacent waters as

- Waters bordering, contiguous to, or neighboring to a water of the U.S. as defined above.
- "Neighboring" includes waters that are located within:
  - o 100 feet of the OHWM of a jurisdictional water;
  - 100-year *floodplain* of a jurisdictional water AND not more than 1,500 feet from the ordinary high water mark; or
  - $\circ~$  1,500 feet of the high tide line of a known water of the U.S., including the Great Lakes.

The entire water is considered "neighboring" even if only a portion of that water is within the covered area.

This Final Rule went into effect on August 28, 2015.

The USACE has also produced a series of Regional Supplements to the 1987 *Manual*, providing technical guidance and procedures for identifying and delineating wetlands that may be subject to Section 404 CWA. These Regional Supplements address wetland characteristics that, due to regional differences climate, geology, soils, hydrology, plant and animal communities, and other factors (USACE 2010), may not meet the characteristics identifying in the 1987 *Manual*. The Project falls within the Western Mountains, Valleys, and Coasts Region.

**Section 401 Clean Water Act.** Pursuant to Section 401 of the CWA, a water quality certification is required from the California Regional Water Quality Control Board (RWQCB) for Section 404 permit activities. The RWQCB certifies that the discharge complies with state water quality standards and ensures that there is no net loss of wetlands through impact avoidance, minimization, and mitigation. The Central Valley Regional Water Quality Control Board (Region 5R) would provide review and water quality certification services for the Project.

### 3.2 State

**Porter-Cologne Water Quality Control Act.** The Porter-Cologne Water Quality Control Act defines "water quality objectives" as the allowable "limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Thus, water quality objectives are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water. Water quality objectives apply to both Waters of the United States and Waters of the State. In the State of California, the Porter-Cologne Water Quality Act is administered in concurrence with the Section 401 CWA Water Quality Certification. As with Section 401 CWA, the Central Valley Regional Water Quality Control Board would provide review and water quality certification services for this Act.

**Basin Plans.** The California State Regional Water Resources Control Board (SWRCB) requires individual RWQCBs to develop Basin Plans (water quality control plans) designed to preserve and enhance water quality and protect the beneficial uses of all Regional waters. Specifically, Basin Plans designate beneficial uses for surface waters and groundwater, set narrative and numerical objectives that must be attainted or maintained to protect the designated beneficial uses and conform to the States antidegradation policy, and describe implementation programs to protect all waters in the Regions. In addition, Basin Plans incorporate by reference all applicable State and Regional Board plans and policies, and other pertinent water quality policies and regulations. The Project is under the jurisdiction of the Basin Plan of the Central Valley Regional Water Quality Control Board.

**Construction Storm Water Program.** The SWRCB and the nine RWQCBs implement water quality regulations under the federal CWA and California Porter Cologne Water Quality Control Act. Existing water quality regulations require compliance with the National Pollutant Discharge Elimination System (NPDES) for discharges of storm water runoff associated with a construction activity.

Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-2009-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for —non-visible pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The Project is within the jurisdiction of the Central Valley Regional Water Quality Control Board (Region 5R); however, a complete Notice of Intent package (including a SWPPP) must be filed to the SWRCB via the Storm Water Multiple Application and Report Tracking System (SMARTS) Database.

**Lake or Streambed Alteration Agreement.** Sections 1600 - 1616 of the California Fish and Game (CFG) Code protect the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW), in which there is at any time an existing fish or wildlife resource, or from which these resources derive benefit. General project plans must be submitted to CDFW in sufficient detail to indicate the nature of a project for construction, if the project would:

- Divert, obstruct, or change a streambed
- Use material from the streambeds
- Result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a stream

The Northern Region of the CDFW serves Siskiyou County and a Section 1602 Lake or Streambed Alteration Agreement would be required for any project-related impacts to streambeds or banks.

## 4.0 METHODOLOGY

Prior to conducting the on-site field investigations, an inventory of readily available data was conducted and reviewed. Aerial photography, USGS topographic maps, National Wetland Inventory (NWI) maps, data from the National Hydrography Dataset (NHD), and Natural Resources Conservation Service (NRCS) soil surveys of the Project area were examined to determine areas of potential USACE jurisdiction and the locations of wetlands and waterways. Potential jurisdictional areas were evaluated and delineated in accordance with the methodology set forth in the USACE 1987 *Wetland Delineation Manual* (Manual), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC; USACE 2010). Only those potentially jurisdictional features that intersected the ROW and proposed temporary access routes were delineated.

The Manual (USACE 1987) defines hydrophytic vegetation as the community of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence on the plant species present. In the WMVC Region, hydrophytic vegetation is considered present when either of the wetland plant indicators (i.e., rapid test and dominance test) is satisfied, using only the five basic levels of wetland indicator status, without the plus (+) and minus (-) modifiers (i.e., OBL, FACW, FAC, FACU, and UPL) (USACE 2010). Due to the extreme variability of climate, weather patterns, topography, soils, and wetland types in the WMVC Region, hydrophytic vegetation determinations are based primarily on their wetland indicator status as designated in the Western Mountains, Valleys, and Coast National Wetland Plant List (Lichvar et. al. 2014; USACE 2014).

On September 15 and 16, 2011 and on July 15 and 16, 2015, POWER biologists Allison Carver and Melissa Lippincott conducted a survey of potentially jurisdictional features adjacent to the proposed Lassen Substation site or crossed by the PacifiCorp ROW and proposed access routes anticipated to be used to access the ROW during construction of the Project area. Wetlands and other waters that are located outside the ROW and not within anticipated areas of Project-related ground disturbance would not be affected by the Project and were therefore not delineated. Results of the delineation surveys are provided in Section 6.

## 5.0 INVENTORY RESULTS

## 5.1 National Wetland Inventory Wetlands

The NWI has mapped the following wetland types within the Project area:

- Palustrine emergent, seasonally flooded (PEMC);
- Palustrine scrub-shrub, seasonally flooded (PSSC)

Palustrine emergent (PEM) wetlands are characterized by erect, rooted, herbaceous hydrophytic vegetation, with the exception of mosses and lichens, that is present for most of the growing season in most years. Palustrine emergent wetlands are usually dominated by perennial plants.

Palustrine scrub-shrub (PSS) wetlands are wetlands dominated by woody vegetation less than 20 feet (6 meters) tall. Species found within PSS wetlands may include true shrubs, saplings, and shrubs or trees that are stunted due to saturated soil conditions.

The modifier "C" indicates wetlands that are seasonally flooded: surface water is present for extended periods, especially early in the growing season, but is absent by the end of the growing season in most years. After the end of seasonal flooding, the water table may vary from saturating the surface to dropping well below the surface (NWI 2014).

As shown in Figure 3, the NWI map depicts PEMC wetlands northwest of Mercy Medical Center (located where Pine Street intersects I-5) between the adult senior apartment community and the railroad tracks; at distribution pole 160901, and again at the southern half of the distribution line to the connection at transmission pole 20/47; from just north of pole 20/47 south to pole 9/48; from north of pole 12/48 to pole 14/48, and finally from north of pole 23/48 to pole 24/48.

The PSS wetlands are mapped in a corridor that runs generally parallel to the west side of the ROW from pole 2/48 south to pole 9/48, with a small area northwest of the existing substation (see Figure 3).

## 5.2 Soils

The NRCS has mapped the following soils types within the Project area (refer to Table 1 and Figure 4). Soil data from the NRCS Web Soils Survey was reviewed and the soil types that are identified by the NRCS as hydric in the Siskiyou County, California, Central Part soil survey and correspond to the Project area are described in detail below (USDA 2014).

SOIL NAME	SYMBOL	LANDFORMS	HYDRIC (Y/N)	HYDRIC CRITERIA
Asta gravelly sandy loam, 15 to 50 percent slopes	102	Terraces	Ν	
Boomer, cool-Neuns complex, 30 to 70 percent slopes	116	Mountains, riverwash, channels	Y	4
Deetz gravelly loamy sand, 0 to 5 percent slopes	125	Outwash fans, summits, riverwash, drainageways	Y	4
Deetz gravelly loamy sand, 5 to 15 percent slopes	126	Outwash fans	Ν	
Diyou loam, peat substratum	138	Floodplains, summits	Y	2

TABLE 1 SOIL TYPES OCCURRING WITHIN THE PROJECT AREA

SOIL NAME	SYMBOL	LANDFORMS	HYDRIC (Y/N)	HYDRIC CRITERIA
Marpa-Kinkel-Boomer, cool complex, 5 to 15 percent slopes	183	Mountains, summits	Ν	
Marpa-Kinkel-Boomer, cool complex, 15 to 50 percent slopes	184	Mountains	Ν	
Neer-Ponto stony sandy loams, 15 to 50 percent slopes complex	196	Hills	Ν	
Odas sandy loam	198	Floodplains, summits	Y	2
Ponto sandy loam, 5 to 15 percent slopes	208	Hills	Ν	
Ponto-Neer complex, 2 to 15 percent slopes	209	Hills	Ν	

#### Boomer, cool-Neuns complex, 30 to 70 percent slopes (116)

Boomer, cool-Neuns soils are residuum weathered from metamorphic rock and occur on mountains, riverwash, and in channels. This soil occurs near the southern terminus of the Project, east of pole 2/49. The soil type is listed as a hydric soil based on the following hydric soil criteria: *Criteria 4: Soils that are frequently flooded for periods of long or very long duration during the growing season* (Siskiyou County, California, Central Part).

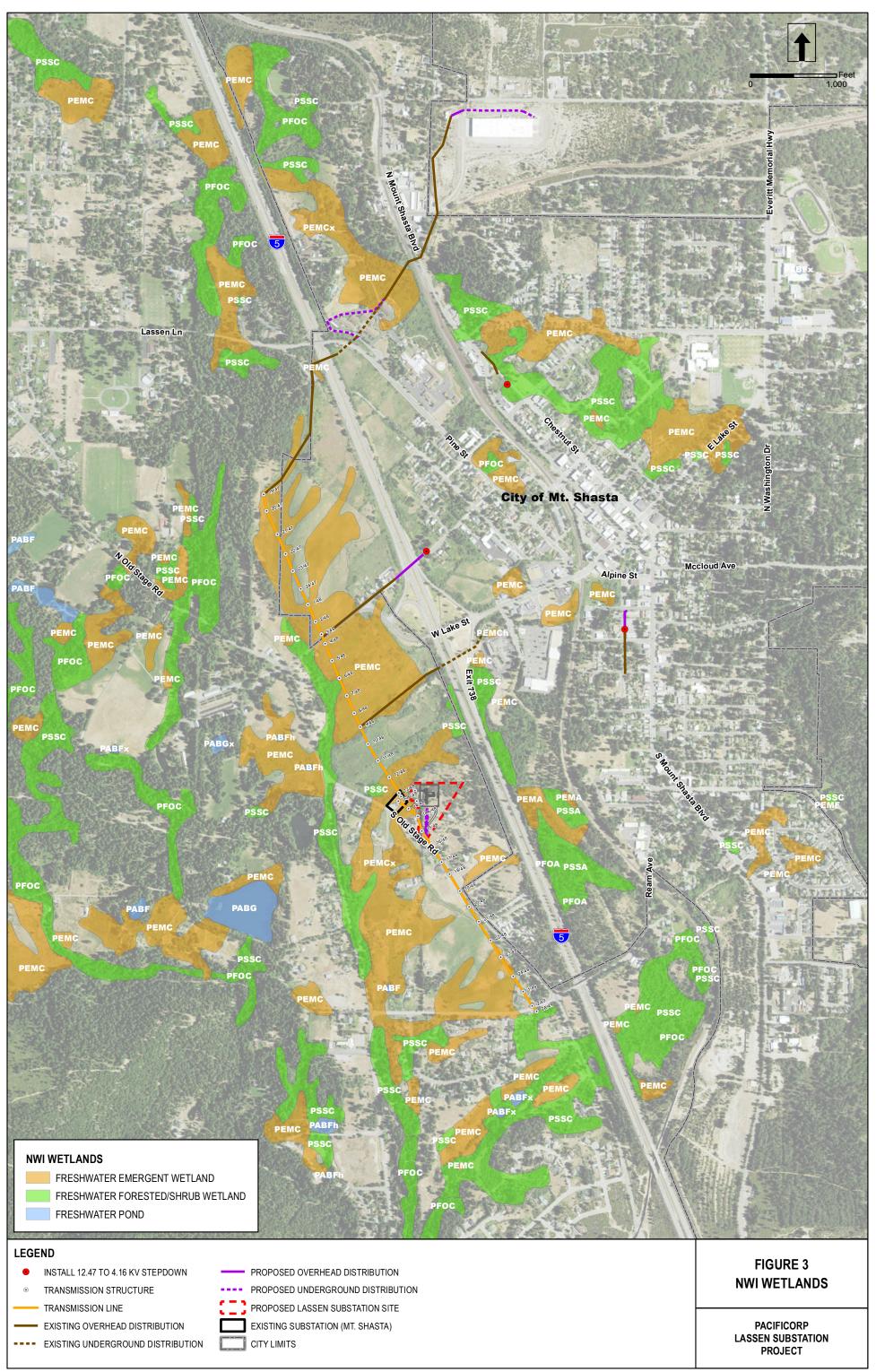
#### Deetz gravelly loamy sand, 0 to 5 percent slopes (125)

Deetz gravelly loamy sand, 0 to 5 percent slopes are Glaciofluvial deposits derived from igneous rock and occurs on outwash fans and in drainageways. This soil generally parallels the western side of the Project ROW from pole 19/47 through pole 8/48. The soil type is listed as a hydric soil based on *Hydric Soil Criteria 4* (Siskiyou County, California, Central Part).

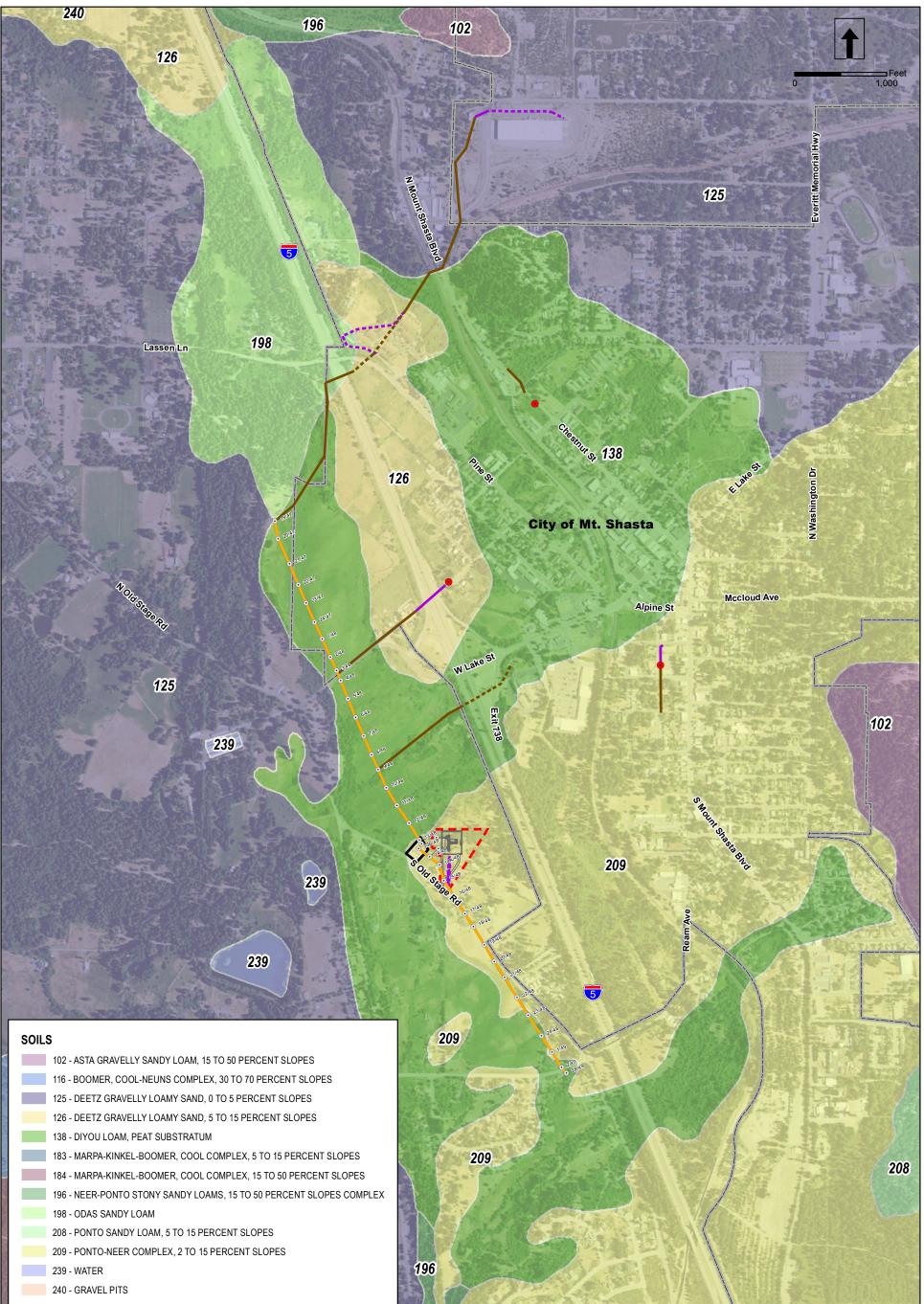
#### Diyou loam, peat substratum (138)

Diyou loam, peat substratum is alluvium derived from igneous, metamorphic, and sedimentary rock, and occurs on the northern half of the Project from pole 20/47 to the edge of the existing Mt. Shasta Substation; on the southern half of the Project, it occurs from pole 23/48 to pole 2/49. The soil type is listed as a hydric soil based on the following hydric soil criteria: *Criteria 2: Soils in Aquic suborders, great groups, or subgroups, Albolis suborder, Aquisalids, Historthels, and Histoturbels great groups, and Cumulic or Pachic subgroups that:* 

- a) Are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
- b) Are poorly drained or very poorly drained and have either:
  - (1) A water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
  - (2) A water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 inches per hour (in/hr) in all layers within a depth of 20 inches, or
  - (3) A water table at a depth of 1.0 foot or less during the growing season in permeability is less than 6.0 in/hr in any layer within a depth of 20 inches (Siskiyou County, California, Central Part).



Source: ArcGIS Imagery, 2010.



125 - DEETZ GRAVELLY LOAMY SAND, 0 TO 5 PERCENT SLOPES
126 - DEETZ GRAVELLY LOAMY SAND, 5 TO 15 PERCENT SLOPES
138 - DIYOU LOAM, PEAT SUBSTRATUM
183 - MARPA-KINKEL-BOOMER, COOL COMPLEX, 5 TO 15 PERCENT SLOPES
184 - MARPA-KINKEL-BOOMER, COOL COMPLEX, 15 TO 50 PERCENT SLOPES
196 - NEER-PONTO STONY SANDY LOAMS, 15 TO 50 PERCENT SLOPES COMPLE
198 - ODAS SANDY LOAM
208 - PONTO SANDY LOAM, 5 TO 15 PERCENT SLOPES
209 - PONTO-NEER COMPLEX, 2 TO 15 PERCENT SLOPES
239 - WATER
240 - GRAVEL PITS



- INSTALL 12.47 TO 4.16 KV STEPDOWN
- TRANSMISSION STRUCTURE  $\odot$
- TRANSMISSION LINE
- EXISTING OVERHEAD DISTRIBUTION
- EXISTING UNDERGROUND DISTRIBUTION

PROPOSED OVERHEAD DISTRIBUTION PROPOSED UNDERGROUND DISTRIBUTION 020 PROPOSED LASSEN SUBSTATION SITE 

EXISTING SUBSTATION (MT. SHASTA)

CITY LIMITS

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FIGURE 4 NRCS SOIL SURVEY

> PACIFICORP LASSEN SUBSTATION PROJECT

Source: ArcGIS Imagery, 2010.

#### Odas sandy loam (198)

Odas sandy loam is alluvium derived from igneous rock, and occurs at the northern terminus of the Project at pole 19/47. The soil is listed as a hydric soil based hydric soil criteria: *Criteria 2* (Siskiyou County, California, Central Part).

## 5.3 Climate and Hydrologic Data

The Project is located immediately west of the City of Mt. Shasta, at the southeast end of Strawberry Valley, in the Cascade Range Province. The average annual maximum temperature in Mt. Shasta is 62.4 degrees Fahrenheit (°F) (16.9 degrees Celsius [°C]) and average annual minimum temperature is 36.7°F (2.6°C). Annual precipitation averages 40.0 inches (101.6 centimeters) and annual snowfall averages 103.1 inches (261.9 centimeters), most of which occurs from November through March (WRCC 2015).

The Project occurs within the southern end of the Cascade Gulch-Mount Shasta Hydrologic Unit (HUC 180200050103) which drains an area of approximately 28.7 square miles (74.4 square kilometers), and is located at the northern end of the Sacramento Headwaters Watershed (HUC 18020005). The Project area drains via Cold Creek, a perennial stream that discharges into Lake Siskiyou, approximately 1.25 miles south of the proposed Lassen Substation site.

Natural vegetation in the area at the time of the field investigations was dominated by ponderosa pine (*Pinus ponderosa*), creeping snowberry (*Symphorocarpos mollis*), sedges (*Carex* spp.), rushes (*Juncus* spp.), bulrushes (*Scirpus* spp.), cattails (*Typhus* spp.), willows (*Salix* spp.), alders, (*Alnus* spp.), dogwoods (*Cornus* spp.), western black hawthorn (*Crataegus douglasii*), Himalayan blackberry (*Rubus discolor*), and non-native grasses, including creeping bentgrass (*Agrostis stolonifera*), orchard grass (*Dactylis glomerata*), annual bluegrass (*Poa annua*), and velvet grass (*Holcus lanatus*).

## 5.4 Land Use

The Project is located in the Southern Cascade Mountain Major Land Resource Area (MRLA 22B) of the Western Range and Irrigated Region (USDA 2006). MRLAs are geographically associated land resource units delineated by the Natural Resources Conservation Service and are the basic units for delineating statewide patterns of soils, climate, water resources, and land use by analyzing elevations, topography, and rainfall data (effective amount, timing, kind, and distribution). Land uses of region 22B within the Project area are diverse, reflecting the topographic and climactic conditions of the area. The economy of the Mt. Shasta area depends most heavily on recreation, travel, agriculture, and timber. Woodlands and open space account for a majority of the acreage in the Project vicinity. Land use in the Project vicinity is generally characterized by a mix of rural residences, pastures, wetlands, commercial businesses, and other various land uses.

The proposed Lassen Substation is located approximately 0.15 mile west of the I-5 corridor. The proposed substation site consists of two parcels (APN 036-220-280 and APN 036-220-170) comprising 4.5 acres in unincorporated Siskiyou County/City of Mt. Shasta sphere of influence. The proposed Project is located in a rural residential area composed of residences and assorted outbuildings, undeveloped land, and the existing Mt. Shasta Substation.

The parcels between West Lake Street and the existing Mt. Shasta Substation (APNs 036-220-040, 036-210-050, 036-210-060, and 036-220-110) form the Morgan-Merrill Wildlife Preserve (Siskiyou County 2000), a wildlife habitat and wetlands mitigation area containing natural wetlands, man-made wetlands, and non-wetland natural areas. This preserve is bisected by Cold Creek, which begins at springs Near Jessie and Spring Streets in the City of Mt. Shasta on the east side of I-5. The natural

wetlands occur north of Cold Creek; south of Cold Creek are man-made mitigation wetlands (Theiss and Associates 1990), with non-wetlands located on both sides of the creek.

The existing 69kV transmission line proposed for upgrading is located on undeveloped land just outside incorporated City of Mt. Shasta. The existing distribution line proposed for reconductoring begins at pole 20/47 and crosses a mixture of undeveloped land and light commercial areas; the remaining small segments of distribution lines to be reconductored are entirely within the developed City of Mt. Shasta. The distribution line to be removed is located adjacent to Cold Creek and within the Morgan-Merrill Wildlife Preserve.

## 6.0 FIELD INVESTIGATION RESULTS

The field investigation resulted in the delineation of four potentially jurisdictional wetlands within the Project area, most of which are located north of the existing Mt. Shasta Substation and all of which intersect the Project ROW. Each wetland feature was investigated for the presence of wetland indicators and delineated within the boundary of the ROW. Wetlands from pole 19/47 south to 2/49 were investigated in 2011, and wetlands occurring around the distribution line leading northeast from pole 19/47 were investigated in 2015.

Prior to the field investigations, historical aerial imagery was reviewed to identify potential locations of wetlands. Wetland features were initially surveyed using a Trimble GPS unit with sub-meter accuracy, and the data was mapped using ArcInfo Geographic Information System (GIS). Each wetland was investigated for wetland indicators (soils, vegetation, and hydrology) and boundaries were mapped in the field using project maps, these boundaries were then confirmed and refined using aerial imagery, including historical imagery (Google et. al. 2015) to capture the extent of each wetland intersecting the ROW.

All four wetlands are PEMC wetlands in which the dominant vegetation species are erect, rooted, herbaceous hydrophytes with at least 30 percent aerial coverage. Vegetation in these wetlands is dominated by perennial plants and vegetation is present for most of the growing season in most years. Due to the relatively stable climate of the Project area (WRCC 2014) these wetlands maintain the same appearance year after year (Dahl et. al. 2015) although in some years these wetlands may be heavily grazed.

The following descriptions of each wetland reflect conditions observed at the time of the field investigations. Data were recorded on Western Mountains, Valleys, and Coast Region wetland determination data forms for each delineated wetland, and the corresponding data sheets are located in Appendix A.

## 6.1 Wetland W-1-11

Wetland W-1-11 is a slope wetland that extends west from the proposed Project ROW between pole 21/48 and pole 24/48, toward Cold Creek (see Figure 5A). The eastern side of this wetland is bounded by an agricultural ditch that was observed to contribute horizontal flow to the fringes of W-1-11 where it intersects the ROW (see Appendix B, Photo 1 and Photo 2). This ditch begins on the west side of South Old Stage Road directly opposite the Mt. Shasta Substation and runs south/southeast through agricultural fields, then returns to the edge of the road near pole 21/48 and ending near pole 24/48. Review of aerial photography indicates that this approximately 0.5-mile-long ditch drains the land immediately up-gradient of South Old Stage Road beginning near the existing Mt. Shasta Substation. Water in the ditch was observed to pond at the end of the ditch and appears to seep/drain horizontally downgradient into W-1-11.

Wetland hydrology indicators for W-1-11 include saturation within the upper 12 inches of the soil profile and free water at 7 inches (at sample location W-1-11B) and at 17 inches (at sample location W-1-11C). The hydric soil indicator at W-1-11B is a redox dark surface (F6) based on observations of a matrix value of 3 or less and a chroma of 1 or less containing 5 percent or more distinct or prominent redox concentrations occurring as soft masses (7.5YR 3/1, 0 to 11 inches containing 20 percent 2.5YR 4/6 reduced matrix). The observed hydric soil indicator at sample location W-1-11C is also redox dark surface (F6) based on a matrix value of 3 or less with a chroma of 1 or less containing 2 percent or more distinct or prominent redox concentrations occurring as pore linings (10YR 2/1, 7 to 17 inches containing 10 percent 7.5YR 2/6 redox concentrations as pore linings).

Hydrophytic vegetation indicators include positive dominance tests of 100 percent at both sample locations with a prevalence index of less than 3.0 (2.26 at sample location B and 2.91 at sample location C) indicating the presence of hydrophytic vegetation. Dominant wetland vegetation included Baltic rush (*Juncus balticus*, FACW), creeping bentgrass (FAC), common rush (*Juncus effusus*, FACW), and Santa Barbara sedge (*Carex barbarae*, FAC). The wetland/upland boundary within the ROW generally follows the slope gradient, with wetland plants beginning at an elevation slightly above the water level of the agricultural ditch and spreading laterally west of the ROW. Upland (sample location W-1-11A) vegetation was dominated by Baltic rush and Santa Barbara sedge near the agricultural ditch, but non-native grasses such as common timothy (*Phleum pratense*, FAC) were more common within the ROW.

During the field investigation, a hydrologic connection to waters of the U.S. was not observed for wetland W-1-11. However, the agricultural ditch which was determined to be perennial since flowing water was observed during both field investigations and during drought years, meets the definition of a tributary as defined in §328.3(c)(3) of the Final Rule because it provides hydrology to Cold Creek by way of wetland W-1-11. Furthermore, review of saturation on aerial photography (i.e., patches of greener vegetation during dry periods), and the City of Mt. Shasta topographic map (USGS 1986) suggest a connection to Cold Creek via the PEMC wetlands, including the greater portion of W-1-11, mapped by the NWI west of the ROW (see Figure 3). It is therefore determined that wetland W-1-11 meets the definition of an adjacent water as defined in §328.3(a)(6) of the Final Rule and is therefore jurisdictional to the USACE under Section 404 CWA.

The two fringes of wetland W-1-11 that intersect the ROW would be temporarily impacted by construction access, but are not within pole replacement work areas and would not be permanently impacted by construction, operation, and maintenance of the Project. Temporary impacts to the wetland fringe south of pole 23/48 would measure approximately 0.007 acre (300.04 square feet, 34 linear feet), and temporary impacts to the fringe south of pole 24/48 would measure approximately 0.002 acre (75.17 square feet and 12 linear feet); total temporary impacts to W-1-11 would be 0.009 acre (375.21 square feet, 46 linear feet).

To minimize impacts to wetland W-1-11, access through these fringes and to pole work areas would be conducted using geomats, portable road platforms, or similar methods to minimize the potential for soils compression or creating ruts. Temporary impacts to wetland W-1-11 are anticipated to be minimal.

## 6.2 Wetland W-2-11

Wetland W-2-11 is located between pole 4/48 and the Mt. Shasta Substation, and is divided by Cold Creek (See Figures 5B, 5C, 5D, and 5E). In 1990 a wetland mitigation plan (Theiss and Associates 1990) for this site was submitted to the USACE as compensation for development in wetlands east of I-5. The plan included removal of livestock to allow the site to recover naturally, blocking and filling of drainage ditches, returning diverted surface flow to the wetlands, and altering the hydrologic regime of upland areas to convert them into wetlands. Information regarding monitoring and success of this mitigation plan was not available at the time this report was prepared.

The northern half of W-2-11, between Cold Creek and pole 4/48, is a slope wetland that is fed by a combination of spring-fed culverts (Theiss and Associates 1990) and groundwater (ENPLAN 2008), and is designated as a PEMC wetland by the NWI. The southern half of W-2-11, between Cold Creek and pole 13/48, is a man-made wetland fed by one spring-fed culvert (Theiss and Associates 1990), although the southernmost portion is also designated as a PEMC. Cold Creek receives flow from a combination of surface stormwater runoff and springs near Jessie and Spring Streets (Theiss and

Associates 1990). The Morgan-Merrill Wildlife Preserve was created in 2000 as part of the wetland mitigation requirement for a previous project.

Of the five sample locations within W-2-11, none possessed all three wetland indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. However, based on all observations of the site through the length of the ROW, timing of the field investigations (during the dry season and during a severe drought), a portion of this site is a man-made wetland for wetland mitigation purposes, and the declaration of the entire site as a wildlife preserve; therefore, all portions of W-2-11 within the Project ROW were assumed to be wetland.

#### Sample Location A (Upland)

Sample location A was the reference upland site and is located approximately 20 feet northwest of the small drainage ditch that follows the north side of the substation pad, as shown in Figure 5C (also refer to Appendix B Photo 3). No hydric soil indicators were observed (10YR 2/1 100 percent at 0 to 10 inches) and; although an impermeable layer was reached at 10 inches, this layer proved to be concrete, possibly from substation construction, and no other hydric indicators were observed at this site.

Hydrophytic vegetation indicators at this upland reference site included a positive dominance test (100 percent) and a prevalence index of less than 3.0 (2.26). The species observed included red willow (FACW), California black oak (FAC), western dogwood (*Cornus occidentlis*, FACW), western black hawthorn (FAC), wild rose (*Rosa* sp.), common rush (FACW), Baltic rush, fringed willowherb (*Epilobium ciliatum*, FACW), Santa Barbara sedge, common velvet grass (FAC), creeping bentgrass, reed canarygrass (*Phalaris arundinacea*, FACW), common yellow monkeyflower (*Mimulus guttatus*, OBL), western water hemlock (*Cicuta douglasii*, OBL), Canada thistle (*Cirsium arvense*, FAC), common horsetail rush (*Equisetum arvense*, FAC), and Himalayan blackberry. The presence of wetland species on an otherwise upland site may be due to the proximity of a shallow drainage ditch associated with the substation pad.

### Sample Location B

Wetland hydrology indicators at sample location B, located midway between pole 12/48 and pole 13/48, include geomorphic position at the bottom of a low toe slope created by fill for the Mt. Shasta Substation, and a positive FAC-neutral test. The wetland soil indicator is a redox dark surface (F6) based on observations of a matrix value of 3 or less with a chroma of 2 or less with 10 percent distinct redox concentrations occurring as soft masses (10YR 2/1 at 0 to 13 inches underlain by a layer of 7.5YR 3/4 at 13 to 20 inches, containing 10 percent 7.5YR 3/4 reduced matrix. While this layer was measured at 13 inches below the surface and not within the upper 12 inches, it is noted that the parent material is dark (10YR 2/1) and signs of reduced matrix may not have been visible at the time of sampling. However, this location possesses two secondary wetland hydrology indicators and, as discussed below, also possesses hydrophytic vegetation. It is also noted that this sampling location is within the man-made wetland (as shown in Appendix B Photo 4).

Hydrophytic vegetation indicators include a positive dominance test (100 percent) and a prevalence index of less than 3.0 (0.99), indicating the presence of hydrophytic vegetation. Dominant wetland species include Santa Barbara sedge and Baltic rush, although one obligate, perennial sweet pea (*Lathyrus latifolius*) was observed at the sampling location. Please refer to Sample Location A for a description of upland vegetation.

### Sample Location C

No wetland hydrology indicators were observed at sample location C, located approximately 60 feet north of pole 11/48. This site is nearly level and located on a low terrace above Cold Creek. This sample location did not possess hydric soil indicators at the time of the investigation; from 0 to 20 inches, the matrix was observed to be 10YR 2/1 with no redox features and saturation beginning at 18 inches.

Hydrophytic vegetation was observed at this location, including a positive dominance (83.3 percent) and a prevalence index of less than 3 (2.71), indicating the presence of hydrophytic vegetation. Dominant wetland species include black hawthorn, Santa Barbara sedge, common rush, creeping bentgrass, Canada thistle, and Himalayan blackberry. Refer to Sample Location A for a description of the associated upland vegetation.

### Sample Location D

Sampling point D possesses one obvious hydrology indicator: geomorphic position. This location is located approximately 100 feet south of Cold Creek in an area that is nearly level (see Appendix B Photo 5). The hydric soil indicator is redox dark surface (F6) based on observations of a matrix value of 3 or less and a chroma of 2 or less containing 5 percent or more distinct or prominent redox concentrations occurring as pore linings (10YR 2/2, 7 to 20 inches containing 5 percent 5YR 4/4 pore linings). The uppermost layer (0 to 7 inches) was observed to have a matrix of 10YR 2/2 with no redox features.

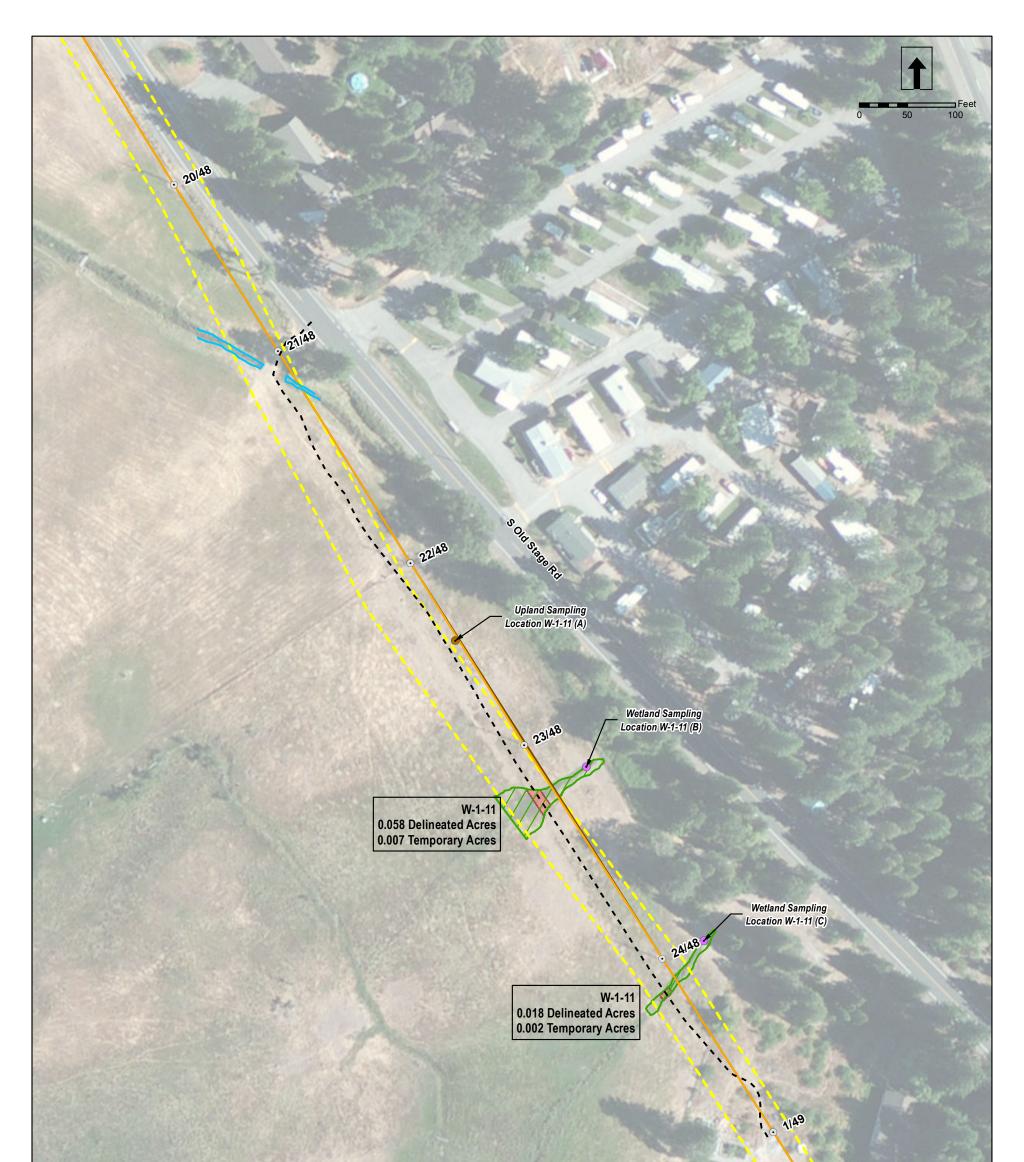
Hydrophytic vegetation indicators include a positive dominance test (100 percent) and a prevalence index of less than 3.0 (1.25), indicating the presence of hydrophytic vegetation. Dominant wetland species include black hawthorn, rufous bulrush (*Scirpus pendulus*, OBL), and Himalayan blackberry. Refer to Sample Location A for a description of the associated upland vegetation.

### Sample Location E

Sampling location E is located north of Cold Creek near pole 9/48, north of the man-made wetland. Due to field conditions at the time of the 2011 investigation only one sample pit was dug in this wetland, but observations of both hydrology and vegetation justified the determination that the entirety of this site within the ROW is a wetland, as discussed below.

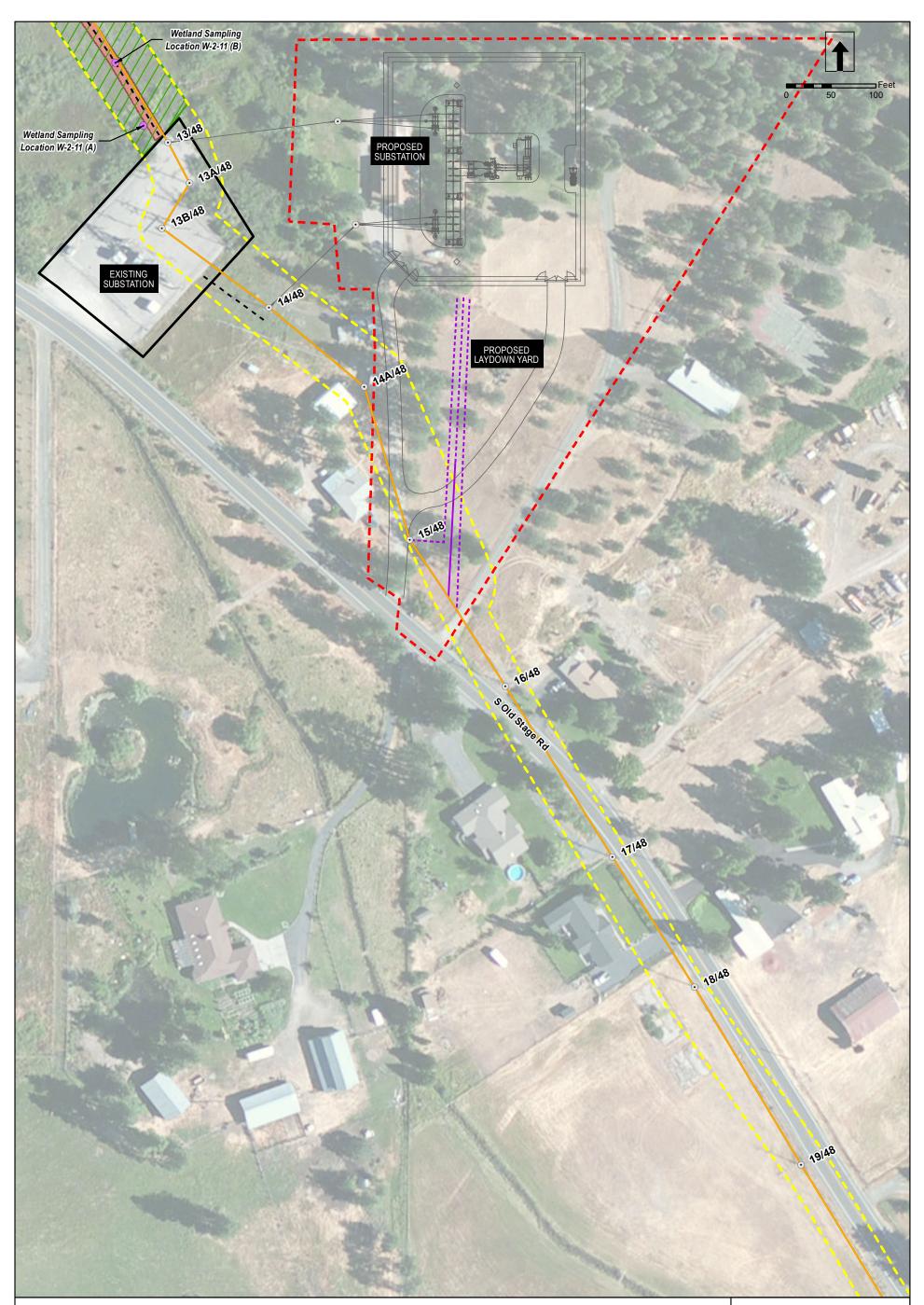
Hydrologic indicators at sampling location E included saturation within the upper 12 inches (7 inches), and geomorphic position (approximately 50 feet from Cold Creek). The soil profile at this site included a matrix layer of low value and low chroma (7.5YR 2.5/2, 0 to 7 inches and 7.5YR 3/2, from 7 to 20 inches) but no visible redox formations, indicating the lack of developed hydric soil. Hydrophytic vegetation indicators at the sample location include a positive dominance test (67 percent); however, the prevalence index was 3.008, indicating that the vegetation at this sample site is marginally hydrophytic.

Hydrology of this site between pole 9/48 and Hatchery Lane included surface water (during the dry season of a drought year, and over 3 feet deep in some areas), drainage patterns, and geomorphic position in a shallow concave area near the bottom of a large flat field (between Cold Creek on the south and a wetland swale on the west). No soil pits were dug between pole 9/48 and Hatchery Lane due to the density of the vegetation and the presence of both standing and flowing water throughout the ROW. The vegetation communities in this half of the site are characterized as dry montane meadow between poles 7/48 and 9/48, which were dominated by grasses (e.g., creeping bentgrass, reed canarygrass) and by both rhizomatous and clump-forming rushes (common horsetail rush, common rush, rufous bulrush; see Appendix B Photo 6). North of pole 7/48 and extending to





Source: ArcGIS Imagery, 2010.



#### LEGEND

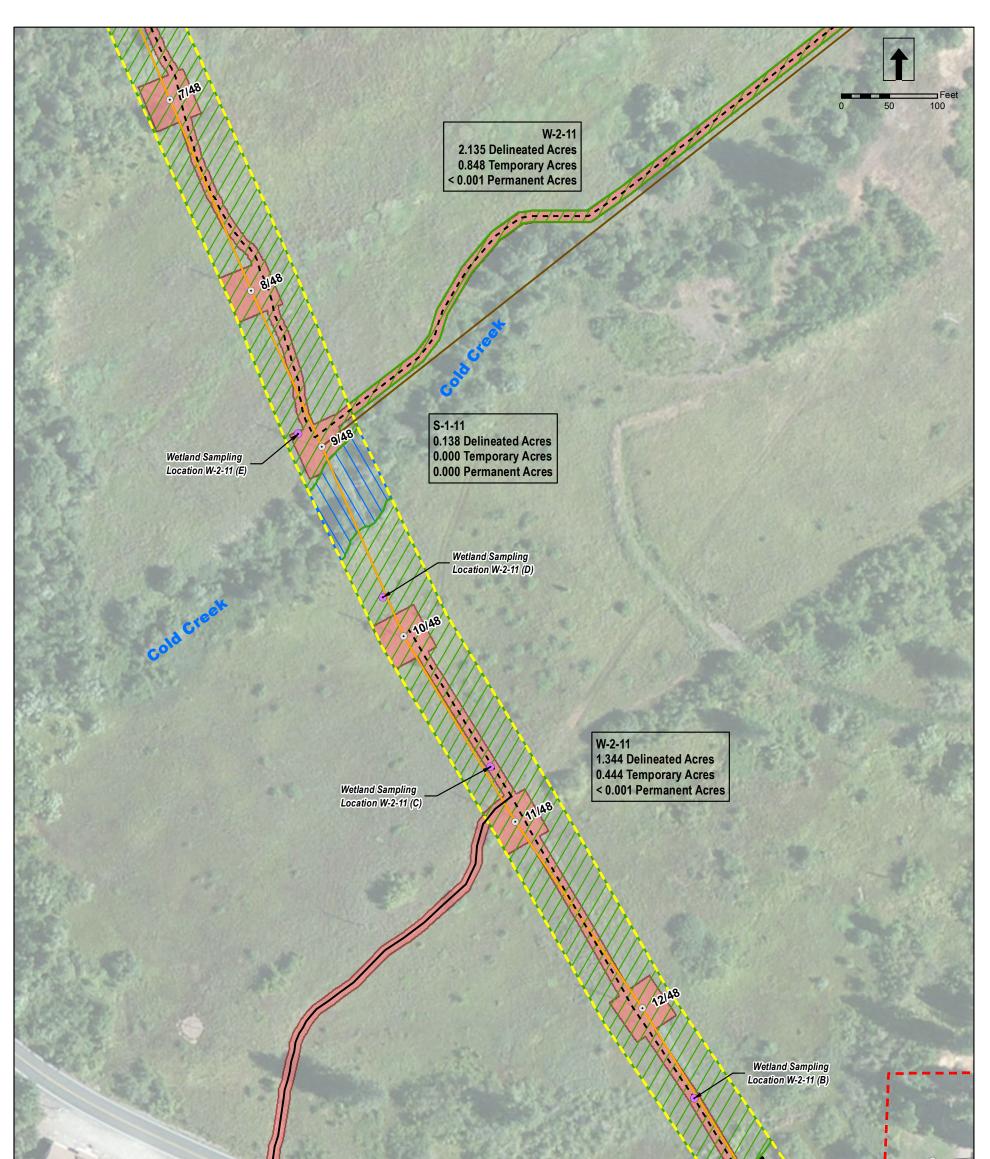
- TRANSMISSION STRUCTURE
- EXISTING TRANSMISSION LINE TO BE REBUILT
- EXISTING OVERHEAD DISTRIBUTION
- PROPOSED OVERHEAD DISTRIBUTION
- ---- PROPOSED UNDERGROUND DISTRIBUTION
- - TEMPORARY ACCESS ROUTE

PROPOSED LASSEN SUBSTATION PARCEL
 EXISTING SUBSTATION (MT. SHASTA)
 RIGHT OF WAY (ROW)
 WETLAND SAMPLING LOCATION
 DELINEATED WETLAND
 WETLAND IMPACTS

FIGURE 5B WETLAND DELINEATION

> PACIFICORP LASSEN SUBSTATION PROJECT

Source: ArcGIS Imagery, 2010.





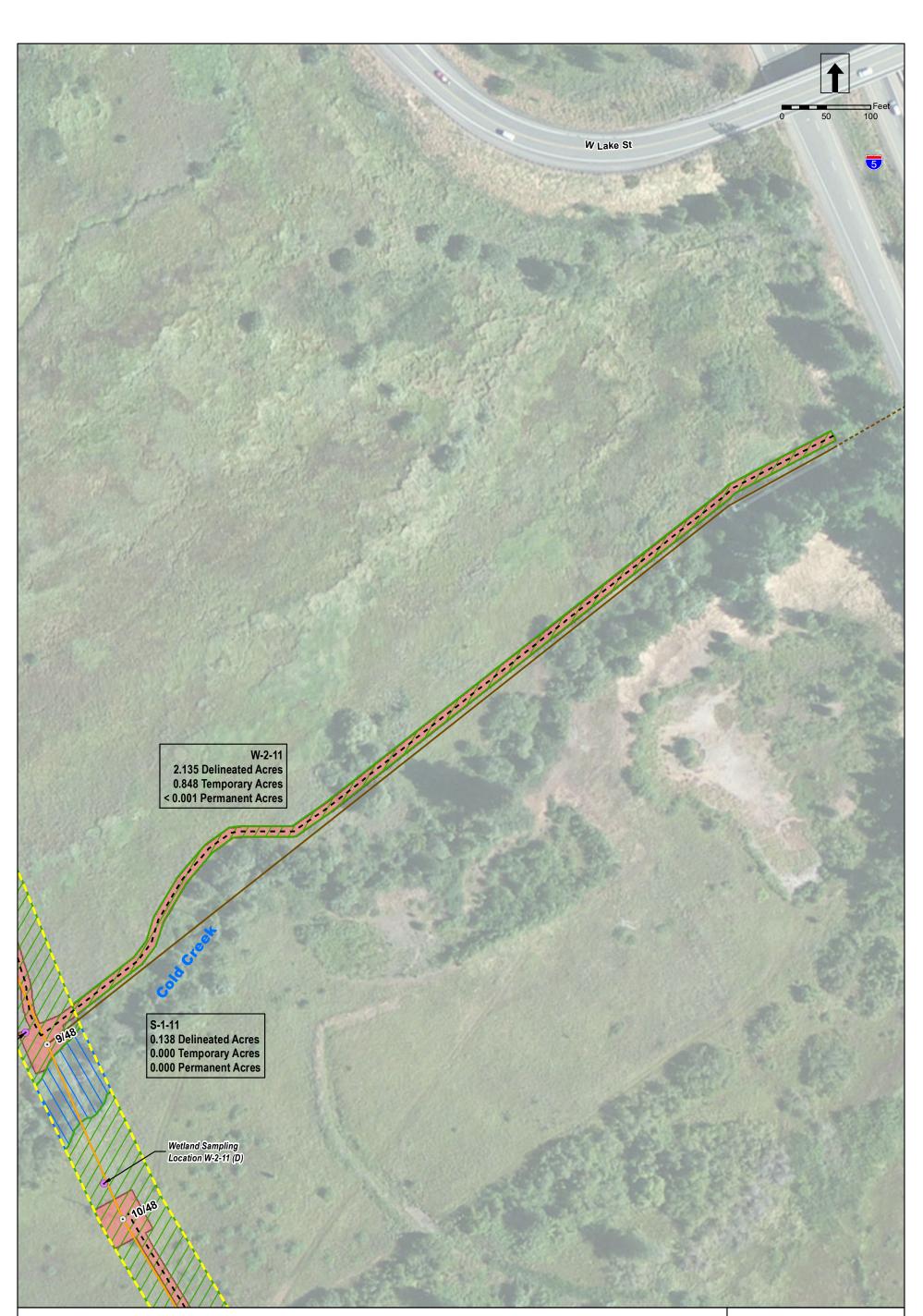
#### LEGEND

- TRANSMISSION STRUCTURE
- EXISTING TRANSMISSION LINE TO BE REBUILT
- EXISTING OVERHEAD DISTRIBUTION
- ----- EXISTING ACCESS ROUTE
- - TEMPORARY ACCESS ROUTE
- **C** PROPOSED LASSEN SUBSTATION PARCEL
- EXISTING SUBSTATION (MT. SHASTA)
   RIGHT OF WAY (ROW)
   WETLAND SAMPLING LOCATION
   DELINEATED WETLAND
   DELINEATED STREAM
- WETLAND IMPACTS

FIGURE 5C WETLAND DELINEATION

> PACIFICORP LASSEN SUBSTATION PROJECT

Source: ArcGIS Imagery, 2010.



#### LEGEND

• TRANSMISSION STRUCTURE

EXISTING TRANSMISSION LINE TO BE REBUILT

EXISTING OVERHEAD DISTRIBUTION

---- EXISTING UNDERGROUND DISTRIBUTION

#### - - - TEMPORARY ACCESS ROUTE

RIGHT OF WAY (ROW)

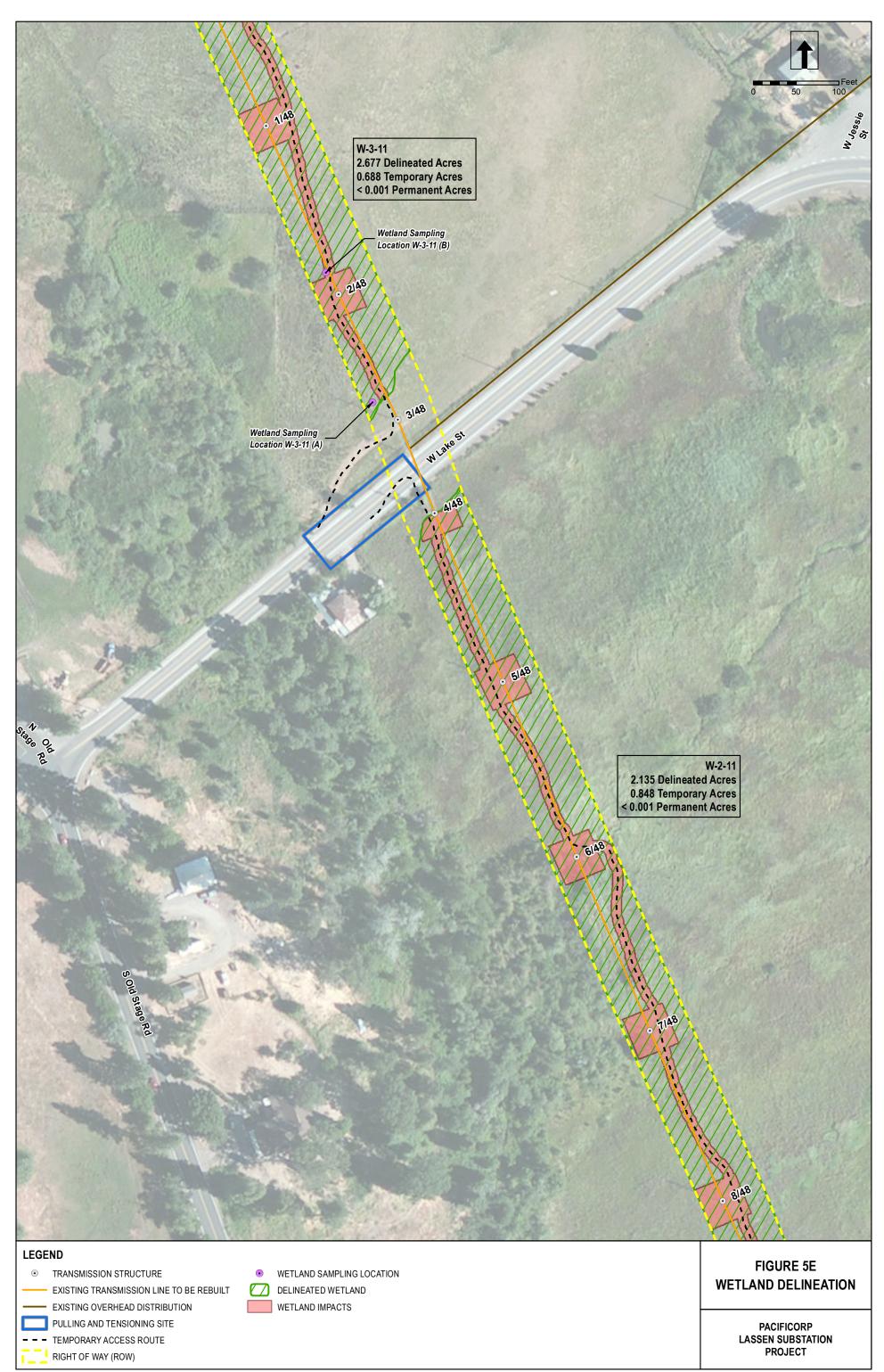
WETLAND SAMPLING LOCATION
 DELINEATED WETLAND
 DELINEATED STREAM



FIGURE 5D WETLAND DELINEATION

> PACIFICORP LASSEN SUBSTATION PROJECT

Source: ArcGIS Imagery, 2010.



Source: ArcGIS Imagery, 2010.

Hatchery Lane, the ROW traverses vegetation communities characterized as wet montane meadows and fresh water marsh. The wet montane meadows were dominated by wetland species, including sedges (e.g., Santa Barbara sedge), rushes, and broad-leaved cattails (*Typha latifolia*, OBL; see Appendix B Photo 7). The freshwater marsh vegetation was dominated by stands of broad-leaved cattail and rufous bulrush (see Appendix B Photo 8). Given site hydrology and observed vegetation communities, it was determined that the area between pole 9/48 and 4/48 at Hatchery Lane is a wetland. Wetland status is extended to the ROW of the distribution line adjacent to the northwest bank of Cold Creek due to proximity of the line to the stream and overall site conditions.

During the field investigations, the northern half of W-2-11 was observed to slope slightly south/southwest toward Cold Creek and the wetland swale, and the southern half trends slightly west/southwest toward Cold Creek and a roadside ditch that discharges into Cold Creek. Cold Creek discharges into Lake Siskiyou approximately 1.5 miles downstream (south) from the site. Lake Siskiyou is part of the system that collectively form the headwaters to the Sacramento River, a known water of the U.S. and a traditional navigable water; therefore, it is determined that wetland W-2-11 fulfills the criteria of the definition of neighboring waters as defined in §328.3(a)(6) of the Final Rule and is jurisdictional to the USACE under Section 404 CWA.

Wetland W-2-11 would be temporarily impacted by construction vehicle access and creation of pole installation work areas, and permanently impacted by installation of the upgraded poles. Additionally, the existing distribution line adjacent to the northern edge of Cold Creek is anticipated to be removed, and vehicle access would result in additional temporary impacts within this ROW (as shown in Figure 5D). Temporary impacts resulting from vehicle access, pole installation, and removal of the obsolete distribution line would measure approximately 1.29 acres. Installation of the new poles would result in approximately 0.0004 acre (16.82 square feet) of permanent impact within jurisdictional waters.

To minimize temporary impacts to wetland vegetation, soils, and hydrology, construction access through W-2-11 would be conducted using geomats, portable road beds, or similar methods to minimize the potential for creating ruts or compressing wetland soils. To the greatest extent feasible, wetland vegetation will be crushed rather than bladed. Temporary impacts to wetland W-2-11 are anticipated to be minimal.

# 6.3 Cold Creek

As described previously, Cold Creek is a perennial stream that derives flow from both local springs and surface runoff from precipitation or snowmelt (Theiss and Associates 1990). Riparian vegetation on both banks of Cold Creek is dominated by black hawthorn, Himalayan blackberry, willow thickets (*Salix* sp.), and dogwoods (*Cornus* sp.). The ordinary high water mark (OHWM) of Cold Creek was not delineated during the investigations because the proposed access roads would not cross the stream or affect associated riparian habitat. No temporary or permanent impacts to Cold Creek are anticipated to result from construction, operation, or maintenance of the Project.

## 6.4 Wetland W-3-11

Wetland W-3-11 is a large slope wetland that is fed by both springs (F. Dalgallo, personal communication, September 14, 2011) and water diversions (A. Merrill, personal communication, October 8, 2009). This wetland is bounded by Hatchery Lane on the south, I-5 on the east, coniferous forest uplands on the north and east, and slopes slightly southeast toward Hatchery Lane. The Project crosses this wetland from pole 20/47 to pole 3/48 (as shown in Figures 5E and 5F), and by the northern distribution line as it diverts north from pole 19/47 (discussed separately in Section 6.5).

The NWI has mapped a large portion of this site as PEMC and PSSC wetlands, although the Project crosses only those wetlands designated PEMC. At the time of the 2011 field investigation a large portion of this site was heavily grazed, which made vegetation identification difficult.

Wetland hydrology indicators for W-3-11 include surface water, high water table, saturation within the upper 12 inches, drainage patterns, dry-season water table, and geomorphic position. Drainage patterns were observed crossing through the ROW between 23/47 and 1/48, and surface water was observed within the ROW between 21/47 through 24/47. Hydric soil indicators for sampling location A, adjacent to pole 3/48, is redox dark surface (F6) based on observations of a matrix value of 3 or less and a chroma of 1 or less (10YR 2/1, 0 to 6 inches) and 2 percent or more distinct redox concentrations occurring as soft masses (10YR 2/1 matrix with 10 percent 2.5YR 3/6 concentrations from 6 to 11 inches), underlain by a layer of 10YR 2/1 matrix with 25 percent 2.5YR 4/6 concentrations occurring as soft masses (11 to 20 inches). At this location, saturation began at 11 inches with free water observed at 17 inches. At sampling location B, hydric soil indicators were redox dark surface (F6) based on observations of a matrix with 30 percent 2.5YR 2.5/4 concentrations occurring as soft masses (11 to 20 inches), underlain by a layer of 10YR 2/1 with 10 percent 2.5YR 2.5/4 concentrations as soft masses (0 to 13 inches), underlain by a layer of 10YR 2/1 with 10 percent 2.5YR 2.5/4 concentrations occurring as soft masses (13 to 20 inches). At this location, saturation began just below the surface at 1 inch, and free water was observed at 13 inches.

Hydrophytic vegetation indicators for wetland W-3-11 include positive dominance tests (100 percent) at both sample locations and prevalence indices of 2.00 and 2.39, respectively. Due to heavy grazing on the eastern property making vegetation identification difficult, a freshwater marsh located outside of the ROW west of poles 1/48 and 3/48 was used as a reference site for sampling location A, and vegetation was identified from within the ROW (see Appendix B Photo 9). Dominant wetland vegetation at the reference site included Santa Barbara sedge and common rush. Dominant wetland vegetation at sampling location B included creeping buttercup (*Ranunculus repens*, FAC), waxy mannagrass (*Glyceria declinata*, FACW), and fringed willowherb; see Appendix B Photo 11 for similar vegetation near pole 1/48. The wetland/upland topography at the northern end of W-3-11 follows a distinct change in topography, hydrologic indicators, and vegetation from wetland-to upland-dominant species (Appendix B Photo 13). Upland vegetation was dominated by Ponderosa pine, incense cedar, and annual bluegrass.

During the field investigation, a second freshwater marsh surrounded by exclusion fencing was observed within the ROW between poles 21/47 and 23/47 (see Appendix B Photo 12). The marsh is a natural wetland that has been remediated as mitigation for Section 401 CWA violations (ENPLAN 2008), and therefore no wetland sampling was conducted within the exclusion fencing. Drainage patterns were observed crossing through the ROW between 23/47 and 1/48, and surface water was observed within the ROW between 21/47 through 24/47.

During the field investigation it was observed that W-3-11 slopes south/southeast toward the observed freshwater wetland west of poles 1/48 and 2/48, and a wetland swale (mapped as a PSSC wetland by the NWI; see Appendix B Photo 10). This wetland swale flows from north to south, seeping beneath Hatchery Lane, and discharges into Cold Creek (RWQCB 2006, ENPLAN 2008). This wetland swale provides hydrologic connectivity to waters of the U.S. as an adjacent water as defined in §328.3(a)(6) of the Final Rule and is therefore jurisdictional to the USACE under Section 404 CWA.

The Project would result in both temporary and permanent impacts to wetland W-3-11. Installation of new poles would result in permanent impacts to jurisdictional waters measuring approximately 11.76 square feet (0.0003 acre). Temporary impacts would result from construction access and creation of pole installation work areas; these temporary impacts would measure approximately 0.69 acre.

To minimize temporary impacts to wetland vegetation, soils, and hydrology, construction access through W-3-11 would be conducted using geomats, portable road beds, or similar methods to

minimize the potential for creating ruts or compressing wetland soils. To the greatest extent feasible, wetland vegetation would be crushed rather than bladed. Prior to construction, the Central Valley Regional Water Quality Control Board would be consulted regarding the most appropriate and feasible construction methods for replacing the poles that occur within the freshwater marsh while minimizing adverse effects to the Morgan-Merrill Wildlife Preserve, wetlands mitigation project. Temporary impacts to wetland W-2-11 are anticipated to be minimal.

# 6.5 Wetland W-1-15

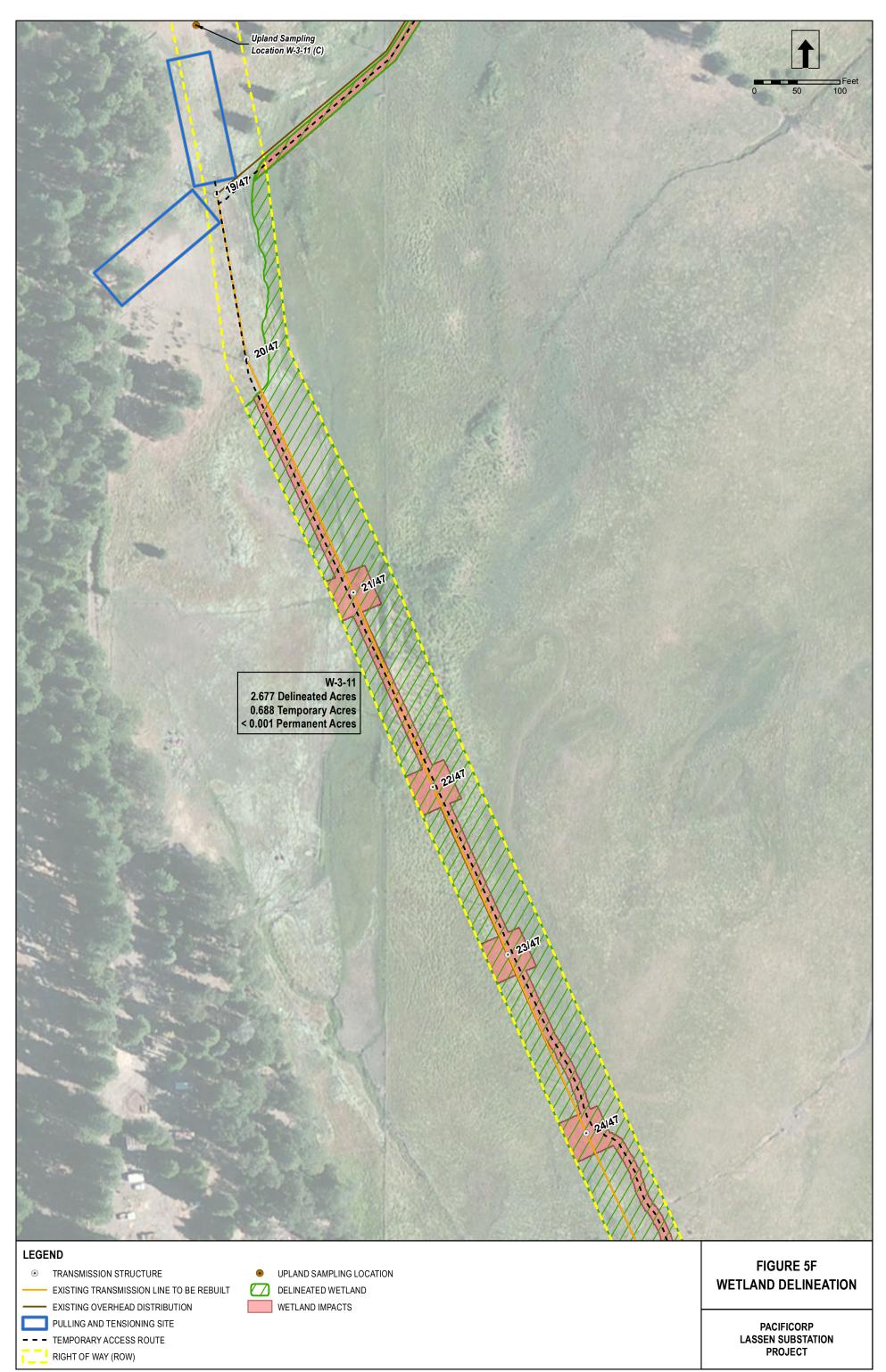
Wetland W-1-15 is a slope wetland that forms the northern continuation of W-3-11, but was investigated on a later date (see Figure 5G and Appendix B Photo 14). The NWI has mapped the eastern half of this wetland as PEMC. However, the wetland was observed to extend beyond the NWI boundary west of the distribution ROW (see Appendix B Photo 15). The hydrology source for this section of the larger wetland is a culvert located on the western side of a dirt access road leading from the end of Smith Road. The other end of this culvert was not located during the field investigations, but since water was observed flowing from the pipe in the dry season during an extreme drought, this culvert may be spring-fed, as are the culverts in W-2-11.

Wetland hydrology indicators for W-1-15 include saturation within the upper 12 inches, dry season water table, drainage patterns, and geomorphic position at the bottom of a low slope. Surface water was observed within five feet of the sample location, and was observed throughout most of the distribution ROW. The hydric soil indicator is redox dark surface (F6) based on observations of a matrix value of 3 or less and chroma of 1 or less with 10 percent prominent redox features occurring as soft masses (10YR 2/1, 0 to 20 inches with redox concentrations of 2.5YR 3/1 as soft masses from 10 to 20 inches).

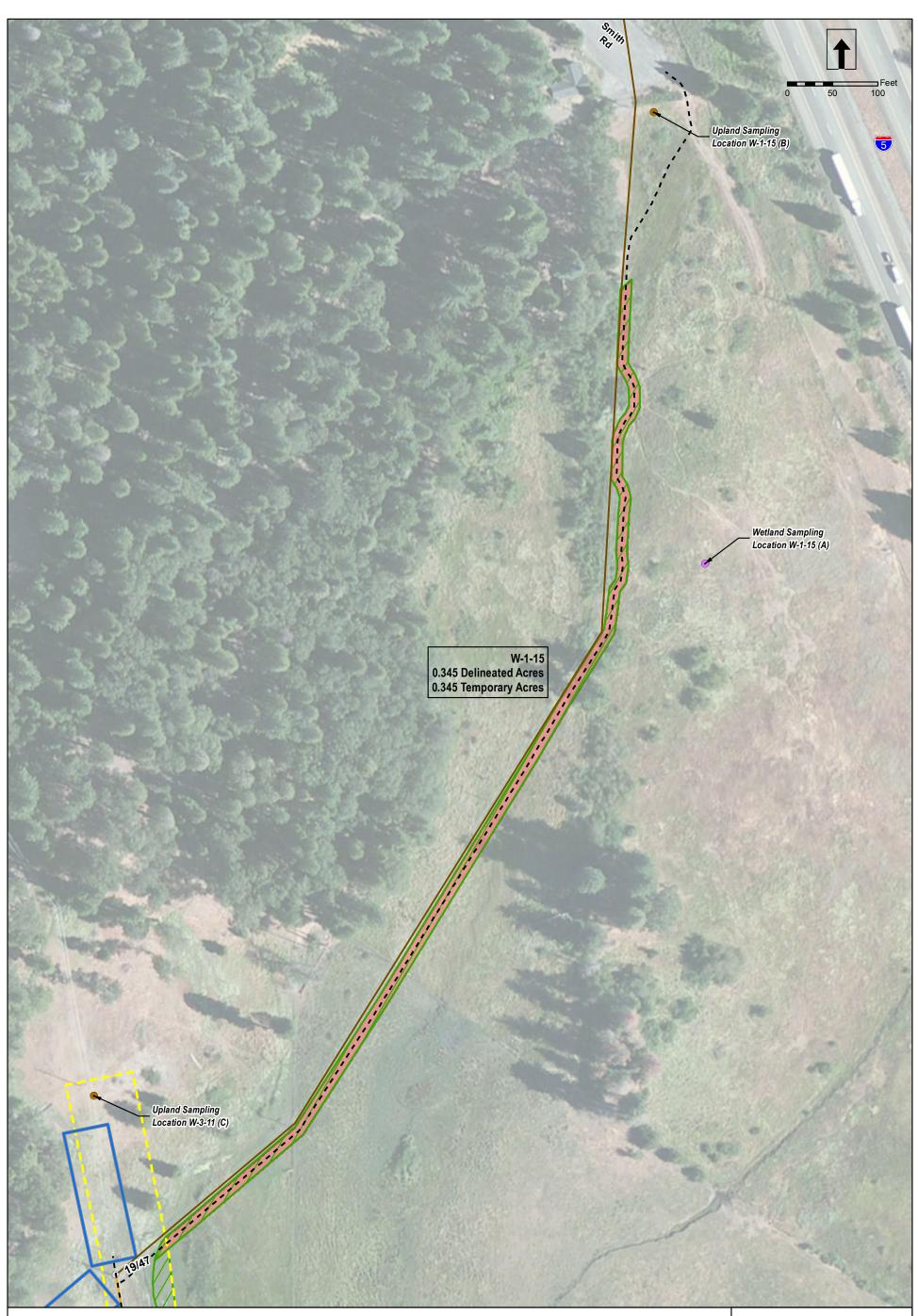
Hydrophytic vegetation indicator is a prevalence index of less than 3.0 (2.8), indicating the presence of hydrophytic vegetation. Dominant wetland vegetation included Santa Barbara sedge and Baltic rush. The wetland/upland boundary follows a distinct change in topography and vegetation from wetland- to upland-dominant species on the west side of the upland, but the boundary on the east was less distinct, featuring a more equal blend of wetland- and upland-dominant species. Upland vegetation was dominated by Ponderosa pine along the western periphery, with incense cedar, common velvetgrass, annual bluegrass, and brome fescue (*Festuca bromoides*, FACU) intergrading with wetland vegetation on both east and west boundaries.

Wetland W-1-15, as the northernmost portion of wetland W-3-11, discharges into the wetland swale discussed in Section 6.3 and therefore was preliminarily determined to be jurisdictional under Section 404 CWA as an adjacent water as defined in §328.3(a)(6) of the Final Rule.

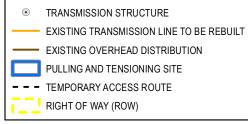
The distribution line upgrade is proposed as part of the Lassen Substation Project, while the conductor would be upgraded the existing poles are anticipated to remain in use. Vehicles and equipment necessary for reconductoring of the distribution line would be situated in upland areas, as feasible, or on paved city streets. Work areas, including areas requiring blading or clearing, would be clearly marked. Construction vehicles and equipment would be prohibited from disturbing slopes and drainages outside of the marked area; therefore, impacts to wetland W-1-15 are not anticipated.



Source: ArcGIS Imagery, 2010.



### LEGEND



•	WETLAND SAMPLING LOCATION
•	UPLAND SAMPLING LOCATION
$\square$	DELINEATED WETLAND
	WETLAND IMPACTS

FIGURE 5G WETLAND DELINEATION

> PACIFICORP LASSEN SUBSTATION PROJECT

Source: ArcGIS Imagery, 2010.

# 7.0 OBSERVED JURISDICTIONAL STATUS

Using the above definitions identified in Section 3.1 of this document, the preliminary determination was made that wetlands W-1-11, W-2-11, W-3-11, and W-1-15 are jurisdictional to the USACE under Section 404 CWA because each wetland flows, directly or indirectly, into Cold Creek, a tributary of the Sacramento River via Lake Siskiyou, and thus meet the definition of *adjacent waters*.

Final jurisdictional status will be provided by the USACE. Figures 5A through 5G depict the boundaries of the wetlands comprising waters of the U.S. that were delineated within the ROW.

For supporting information refer to the wetland determination data forms provided in Appendix A. Photographs of each wetland site are provided in Appendix B.

# 8.0 REFERENCES

- Central Valley Regional Water Quality Control Board (RWQCB). 2006. Site Inspection Report June 26, 2006. Available at <u>https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp</u>. Accessed December 12, 2014.
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# APPENDIX A WETLAND DETERMINATION DATA FORMS

			W-1-11A
		SS #0	Intains, Valleys, and Coast Region
		City/County: 1/4-04	asa (Sichiya) Sampling Date: 1630201
Applicant/Owner: Pacity (a) p			State: Sampling Point:
			inge: <u>321 NW, T40N, 74W</u>
and the second se			convex, none): Slope (%):
			Long: 172, 317083° Datum: NAD83
Soil Map Unit Name: PUNO-NUT COMPLY, ZO	to 15 purch	unt 610pes	NWI classification: <u>NNMC</u>
Are climatic / hydrologic conditions on the site typical for	this time of ye	ar? Yes <u> </u>	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology		disturbed? Are	"Normal Circumstances" present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showing	sampling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes		1- 4h - 0 1	
Hydric Soil Present? Yes	<pre>/</pre>	Is the Sampled within a Wetla	X
Wetland Hydrology Present? Yes	No		
NPLAND SAMPLE POINT, NPLAND SAMPLE POINT, NBOWLEN 22/48 OUN 23/48			•
VEGETATION – Use scientific names of p	lants.		
20150-1216	Absolute	Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' (2007</u> ) 1	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3,			Species Across All Strata: (B)
4	()	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15 100445)	1		Prevalence Index worksheet:
1, <sub>1</sub> ,			Total % Cover of: Multiply by:
2			OBL species $x 1 = D$
3			FACW species $87$ x 2 = $174$
4			FAC species $3l = 10\%$
5		- Total Causa	FACU species x 4 =
Herb Stratum (Plot size: 6' radal/6)	¥—	= Total Cover	UPL species x 5 =
1. JUNUUS HALFILUS		Y FACW	Column Totals: <u>23</u> (A) <u>262</u> (B)
2. Darcistis statanicora	10	N FAC	Prevalence Index = B/A = <u>2</u> 129
3. Phalants annanacha		NA FICW	Hydrophytic Vegetation Indicators:
4. polam provense		N FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Casex Toarbarace	25	Y FAC	$\frac{1}{2}$ 2 - Dominance Test is >50%
6			$\times$ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8			5 - Wetland Non-Vascular Plants <sup>1</sup>
9			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		1 <u></u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2.2	123	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 301 Tall 1			
1			Hydrophytic Vegetation
2	- 0	= Total Cover	Present? Yes No
% Bare Ground in Herb Stratum			
Remarks:			

#### SOIL

Sampling Point: W/-// A-

Profile Description: (Describe	to the depth needed to docu	ment the indicator	or confirm t	he absence of indic	ators.)
Depth Matrix		ox Features			
(inches) Color (moist)	% Color (moist)	<u>%</u> Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0+20 7.5422/3	100			andy loan 512	ast wool leen
<sup>1</sup> Type: C=Concentration, D=Dep Hydric Soil Indicators: (Application)			d Sand Grai		PL=Pore Lining, M=Matrix. roblematic Hydric Soils <sup>3</sup> :
Histosol (A1)	·	•		2 cm Muck (	
Histic Epipedon (A2)	Sandy Redox Stripped Matrix				Material (TF2)
Black Histic (A3)		Mineral (F1) (except	MLRA 1)		v Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed			·	ain in Remarks)
Depleted Below Dark Surface					
Thick Dark Surface (A12)	Redox Dark S			<sup>3</sup> Indicators of hyd	drophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark	• •			ology must be present,
Sandy Gleyed Matrix (S4)	Redox Depres				bed or problematic.
Restrictive Layer (if present):					
Туре:					
Depth (inches):				Hydric Soil Presen	t? Yes No 🔀
Remarks: First inch is still s focky belao shat	lightly motor from	raindern y	entesdee	y, but soil t	5 very day and
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of o	ne required; check all that app	ily)		Secondary Inc	dicators (2 or more required)
Surface Water (A1)	Water-St	ained Leaves (B9) (e	xcept	Water-Sta	ained Leaves (B9) (MLRA 1, 2,
High Water Table (A2)	MLRA	1, 2, 4A, and 4B)		4A, ar	id 4B)

4A, and 4B)
 Drainage Patterns (B10)

- \_\_\_\_ Dry-Season Water Table (C2)
- \_\_\_\_ Saturation Visible on Aerial Imagery (C9)
- \_\_\_\_ Oxidized Rhizospheres along Living Roots (C3) \_\_\_\_ Geomorphic Position (D2)
  - \_\_\_ Shallow Aquitard (D3)
  - \_\_\_\_ FAC-Neutral Test (D5)
  - Raised Ant Mounds (D6) (LRR A)
  - Frost-Heave Hummocks (D7)

Inundation Visible on Aer	rial Imagery (B7)	Other (Explain in Remarks)	Frost-Heave H	Hummocks (D7)
Sparsely Vegetated Cond	cave Surface (B8)			
Field Observations:				
Surface Water Present?	Yes No ½	_ Depth (inches):		
Water Table Present?	Yes No	_ Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes No	_ Depth (inches):	Wetland Hydrology Present?	Yes No <u>X</u>
Describe Recorded Data (stre	am gauge, monitoring v	well, aerial photos, previous inspec	tions), if available:	
Remarks:				

\_\_\_ Salt Crust (B11)

\_\_\_\_ Aquatic Invertebrates (B13)

\_\_\_\_ Hydrogen Sulfide Odor (C1)

\_\_\_\_ Presence of Reduced Iron (C4)

\_\_\_\_ Recent Iron Reduction in Tilled Soils (C6)

Stunted or Stressed Plants (D1) (LRR A)

\_ Saturation (A3)

Water Marks (B1)

Drift Deposits (B3)

\_\_\_ Iron Deposits (B5)

Sediment Deposits (B2)

Algal Mat or Crust (B4)

Surface Soil Cracks (B6)

# ひ-1-11()

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lagson Substantian	c	ity/County: <u>M. Sh</u>	0510 635 Kiyw Sampling Date: 115002011
Applicant/Owner: Pacip Casp			State: Sampling Point:
Investigator(s): (ASMA, Lapomcoff	S	ection, Township, Ra	nge: <u>521, 440N, K4W</u>
_andform (hillslope, terrace, etc.):	L	ocal relief (concave,	convex, none): Cuntant Slope (%): 13%
Subregion (LRR): 223	Lat: 41		Long: <u>"127, 317/85"</u> Datum: <u>MAD63</u>
Soil Map Unit Name: Din(A) (DOMM, Draf 60)	E E		NWI classification:
Are climatic / hydrologic conditions on the site typical fo			
		/	'Normal Circumstances' present? Yes X No
Are Vegetation, Soil, or Hydrology			-
re Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.) ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	_ No		
Hydric Soil Present? Yes	No	Is the Sampled	
Wetland Hydrology Present? Yes	No	within a Wetlar	nd? Yes <u>//</u> No
Remarks: SWM # 23/46 /EGETATION – Use scientific names of p	lants.		
		Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>3017a0105</u> ) 1		Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2		U	Total Number of Dominant
3			Species Across All Strata:
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 tad WS		= Total Cover	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 1) (4474)			Prevalence Index worksheet:
2			Total % Cover of: Multiply by:
2			OBL species x 1 =
		······	FACW species x 2 =54
۲. <u></u>			FAC species $\underline{75}$ x 3 = $\underline{75}$
	<u> </u>	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5/Tathy)	- <u>y</u>		UPL species x 5 =
1. Elea Charles 501		N NT	Column Totals: 1() 3 (A) 233 (B)
2. Junus balticus	5	Y SHOW	Prevalence Index = B/A = <u>7720</u>
3. Agrostis stalantere	15	FAC	Hydrophytic Vegetation Indicators:
4. Pog bulbosa		N FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Holevs landeros		MFAC	2 - Dominance Test is >50%
s. Philpen pratense		IV. SAC	Y_ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7. TRIFOLIVIN OP		IV MI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8. Loninculus tiplus		N FAC	data in Remarks or on a separate sheet)
9. JUNOUS ARUSUS		Y FACUD	5 - Wetland Non-Vascular Plants <sup>1</sup>
10. COUSEX DATATAL		N SACIN	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11. Multice array 3.3	109 =	Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 30"10015)			
1 et		· · · · · · · · · · · · · · · · · · ·	Hydrophytic
2	- /vi -		Vegetation Present? Yes No
% Rare Ground in Herb Stratum	=	Total Cover	
% Bare Ground in Herb Stratum Remarks:			
	N. E.		
NI = No Indicador, mainle 4	DIN NOI O	DU YO SECU	65,

Profile Desc	ription: (Describe	to the de	pth neede	d to docun	nent the i	ndicator o	or confirm	the absence	of indicators.)	
Depth	Matrix				x Features		1 2	Tastas	-	
(inches)	2.5 (17. 3/1	%	Color	(moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	N III
0.+	JE I		40	1/4		RIM	M	Correge	Dattoration at 3	sinches
7-11	7512311	40	2.54	K y IU	20	ISM	<u> </u>	Gouldy	LA FOSHIGHUE	ayes () + ",
								<u> </u>	Worker @ Find	115
2 <del></del>	-					· · · · · · · · · · · · · · · · · · ·				
			(			·				
·		() ·	-						3	
. <u> </u>			-			<u> </u>				
						. <u> </u>				
	oncentration, D=Dep						d Sand Gra		cation: PL=Pore Lining, N	
-	ndicators: (Applic	able to al				ed.)			ors for Problematic Hyd	ric Soils':
Histosol				ly Redox (S					n Muck (A10)	
	ipedon (A2)			ped Matrix ny Mucky N		) /			l Parent Material (TF2) y Shallow Dark Surface (	
Black His	n Sulfide (A4)			ny Mucky N	- 44		WILKA 1)		er (Explain in Remarks)	1 F (2)
	Below Dark Surfac	æ (A11)		eted Matrix		)		Out		
·	rk Surface (A12)			ox Dark Su				<sup>3</sup> Indicato	ors of hydrophytic vegetat	ion and
	ucky Mineral (S1)		7	eted Dark S	• •	7)			ind hydrology must be pre	
Sandy G	leyed Matrix (S4)		Rede	ox Depress	ions (F8)			unles	s disturbed or problemati	c.
,	ayer (if present):	Δ								ALC: NO
Type: 💯	wolk to identify	ig								S
Depth (inc	thes):	1						Hydric Soil	Present? Yes	No
Remarks:	Mark Marcon	N.C.	22 A.D	Luc al		1. A. Oak	Sec. De	- indi-	1- An ANDILL	
SOFUTAN	nen degon v	-JANNA	SINC	MEDI	$\sim 10^{-10}$	OUT TOX	(4)	et i unite	or of 7 includes	
HYDROLO	CV.									
	Irology Indicators:		20 Q		,			0		i n
	ators (minimum of o	one require	a, cneck a		in the	(50) (			ndary Indicators (2 or mo	
	Water (A1)			Water-Stai			cept	v	Vater-Stained Leaves (B9	) (MLRA 1, 2,
40	ter Table (A2)				1, 2, 4A, a	ind 4B)			4A, and 4B)	
X Saturatio				Salt Crust		- (D10)			Prainage Patterns (B10)	<u></u>
Water M				Aquatic Inv					Pry-Season Water Table (	
	it Deposits (B2) iosits (B3)		_	Hydrogen			iuina Boot		Saturation Visible on Aeria	
	t or Crust (B4)			Presence	-	-	÷		Seomorphic Position (D2)	
	osits (B5)			Recent Iro					hallow Aquitard (D3) AC-Neutral Test (D5)	
	Soil Cracks (B6)		_	Stunted or					Raised Ant Mounds (D6) (	
	on Visible on Aerial	Imagery (F		Other (Exp					rost-Heave Hummocks (I	
	Vegetated Concav					indino,				2.,
Field Observ		e eundree	()				1			
Surface Wate		(es	No X	Depth (ind	ches)					
Water Table				Depth (ind		1				
Saturation Pr				Depth (ind		3	-   Wetla		y Present? Yes <u>X</u>	No
(includes cap	illary fringe)	'							γ ττοσείτετ τοσ <u>-</u> γ	
Describe Red	corded Data (stream	n gauge, m	onitoring v	vell, aerial p	photos, pre	evious ins	pections), i	f available:		
Remarks:	and the second s			VC New	1 . O was	0.007	AL DA	later mai	alm de a contra	- Jaco Bell
Somell	mg locoution	is all	20,10.	10 460	T 450	VV CM	uy ar	TCM HALL	-standing welles u d Nati,	and and
pit loo	LED I VE HI	5 CM (	the sai	me eler	10141011	06 34	a walt	er in ch	k a MCH,	
1	5									

# $W \cdot I - II(C)$

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

		City/County: MA. Sha	Sampling Date: 10 Sep 2011
Applicant/Owner: Pacida Caris			State: Sampling Point:
Investigator(s): CONT, Laponcard			ange: <u>521, TYON, RYW</u>
Landform (hillslope, terrace, etc.):	4.1		convex, none): <u>COUCM/L</u> Slope (%): <u>~3/4</u>
			_ Long: -122, 3107.37" Datum: 44063
Soil Map Unit Name: D: Yas Walk, prof 51b	3Hrafum		NWI classification: <u>PEMC</u>
Are climatic / hydrologic conditions on the site typical for	this time of ye	ar? Yes X No _	(If no, explain in Remarks,)
Are Vegetation, Soil, or Hydrology	significantly	disturbed? Are	"Normal Circumstances" present? Yes X
Are Vegetation, Soil, or Hydrology	_ naturally pro	blematic? (If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing	sampling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?     Yes       Hydric Soil Present?     Yes       Wetland Hydrology Present?     Yes	No No No	Is the Sampled within a Wetlan	.v
Remarks:	NO		/
4ct 24/48			
VEGETATION – Use scientific names of pla	ants.		
	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 Tadats)	<u>% Cover</u>	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant Species Across All Strata:(B)
4 (ma) 0 k		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size: 16 10016)			Prevalence Index worksheet:
1	-		Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species () x 2 = 20
45		·	FAC species 100 x 3 = 300
5		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5 Tack)5	-20-		UPL species x 5 =
1. Cares parcorae		Y FAC	Column Totals: (A) 37() (B)
2. June 3 Valvicus		_NA(M)	Prevalence Index = B/A = <u>7, 9</u>
3. Darosons stolanianta	5_	N_FAC	Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			🕺 2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8			5 - Wetland Non-Vascular Plants <sup>1</sup>
9			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 501 100116)		= Total Cover	be present, unless disturbed or problematic.
2			l Undersch die
1			Hydrophytic Vegetation
fa	0.8	= Total Cover	Present? Yes No
% Bare Ground in Herb Stratum			
Remarks:			

#### SOIL

Sampling Point: 4444

	ription: (Describe	to the dep	oth needed to docu			or confirm	the absence	of indicators.)
Depth (inches)	Matrix	0/		x Feature		1.0.2	Tautura	Pomorico
(inches)	Color (moist)	100	Color (moist)		Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
2 1 2	1.51V 11	100	1 canto 5/		-	Du.	loam_	A 1-0121
7-17	10/12 2/1	40	7.54246	10	_C	PL	100mgclay	Grownwater @ IT inches
			1 <b>.</b>			·		504 STOAT an @ 12 inches
								101.420
	-		2					
		·	2	-				
	×	· — —	5 <del></del>	V				
			5					
			=Reduced Matrix, C			ed Sand Gr		ation: PL=Pore Lining, M=Matrix.
_		able to all	LRRs, unless othe		ed.)			rs for Problematic Hydric Soils <sup>3</sup> :
Histosol	• •		Sandy Redox (					Muck (A10)
	pipedon (A2)		Stripped Matrix	. ,	4) /			Parent Material (TF2)
Black Hi	n Sulfide (A4)		Loamy Mucky I Loamy Gleyed			(IVILIKA 1)		Shallow Dark Surface (TF12) er (Explain in Remarks)
_ · ·	Below Dark Surface	e (A11)	Depleted Matrix		•)			
	ark Surface (A12)		X Redox Dark Su				<sup>3</sup> Indicato	rs of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark	. ,				nd hydrology must be present,
	ileyed Matrix (S4)		Redox Depress	sions (F8)			unless	s disturbed or problematic.
Restrictive L	_ayer (if present):							1
Туре:			-					$\checkmark$
Depth (ind	ches):						Hydric Soil	Present? Yes <u>/ No</u>
Remarks:								
								All the second s
								114
HYDROLO	GY							
	drology Indicators:							
-			d; check all that app	ι.Λ			Secon	dary Indicators (2 or more required)
		ne require			(B0) (4	weent		dater-Stained Leaves (B9) (MLRA 1, 2,
	Water (A1) Iter Table (A2)		Water-Sta			жсері	vv	4A, and 4B)
	2010 C		Salt Crust	<b>1, 2, 4A, a</b>	anu 40)		D	rainage Patterns (B10)
100000	arks (B1)		Aquatic In		e (R13)			ry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen					aturation Visible on Aerial Imagery (C9)
	oosits (B3)					Living Roo		eomorphic Position (D2)
	at or Crust (B4)		Presence		-	-		hallow Aquitard (D3)
	osits (B5)					ed Soils (C6		AC-Neutral Test (D5)
	Soil Cracks (B6)					01) ( <b>LRR A</b>		aised Ant Mounds (D6) (LRR A)
	on Visible on Aerial I	magery (E						ost-Heave Hummocks (D7)
	Vegetated Concave							
Field Obser	vations:							
Surface Wate	er Present? Y	es	No X Depth (ir	ches):				
Water Table	Present? Y	'es <u>X</u>	No Depth (ir	ches):	17	_		
Saturation P	resent? Y	'es <u>X</u>	No Depth (ir	ches):	12	Wetl	and Hydrology	Present? Yes 🔨 No
(includes cap								
Describe Re	corded Data (stream	i gauge, m	onitoring well, aerial	photos, pi	revious in	spections),	it available:	
Remarks:								

			W-2-11 (A)	13/48
WETLAND DETERMINATION DA				-
Project/Site: VASSEN SUDSYALION		City/County: <u>MH, SN</u>	asta/Siskiyw Sampling	Date: 155/02011
Applicant/Owner:			State: Sampling	
nvestigator(s): <u>Carves</u> , <u>Lippince14</u>		Section, Township, Ra	inge: <u>521 NW, T40 N, 17 L</u>	IW
			convex, none):	
Subregion (LRR):	(Lat: <u>4</u> ]	, 3050W	_ Long: -122, 321864°	Datum: <u>//A083</u>
Soil Map Unit Name: POUSTO - NUT COMPLEX, 2-5	percent	6/0015	NWI classification:	MC
Are climatic / hydrologic conditions on the site typical for thi	is time of ye	ar? Yes 📈 No _	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly	disturbed? Are	"Normal Circumstances" present? Y	es No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic? (If ne	eeded, explain any answers in Remai	ks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling point I	ocations, transects, importa	int features, etc.
Hydrophytic Vegetation Present? Yes Y		Is the Sampled	4 4	
Hydric Soil Present? Yes N	A./	within a Wetla		Х
	10 <u>/</u>			
Remarks: Pronounty of Multiplotation around	reated	to the uple	and site narhave ob	wed alu
wothend/upland vegetatien rebut	$s, \geq$	DRIANDS	THE	
VEGETATION – Use scientific names of plar	nts.	0.0.000		
2 NI TO 10 K.	Absolute	Dominant Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30' Tadalus) 1. Solit (autor)	<u>% Cover</u>	Species? Status	Number of Dominant Species	5
2. QUISENS KET DAGNI		Y FAC	That Are OBL, FACW, or FAC	(A)
3			Total Number of Dominant Species Across All Strata:	5 (В)
4			Species Across Air Strata.	(B)
is too but		= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:	100 <sup>°</sup> /. (A/B)
Sapling/Shrub Stratum (Plot size: 15'radits		N PERMIN	Prevalence Index worksheet:	(100)
1. COTWS OCCIDENTALIS		M PACIAL	5 5 5 5 5 5 5	Multiply by:
2. Cratalaus aevalusii	10	The And	OBL species <u>US</u> x1	<u> </u>
3. <u>VOSA GP</u> I		N TALV		= 122
5			FAC species 51 x 3	=_163
		= Total Cover	FACU species x 4	=
Herb Stratum (Plot size: 51 1700-116)				110.00
1. dvnzus lafvsus	20	Y FACU)	Column Totals: $177$ (A)	(00(B)
2. Junius battoris	5	N FACIN	Prevalence Index = B/A =	217.6
3. Epilobium ciliatum		N_ FACW	Hydrophytic Vegetation Indicato	rs:
4. Larex Dar Dar Bar		N TAA	1 - Rapid Test for Hydrophytic	Vegetation
5. UNING Janatus 6. Aarostis Stalon) fura		N FAC	$\frac{1}{10}$ 2 - Dominance Test is >50%	
7. Phalats arvinding cla	15	FACID	$\times$ 3 - Prevalence Index is $\leq 3.0^{1}$	
8 Malawilis a Marais		N OBL	4 - Morphological Adaptations data in Remarks or on a se	
9. Cicuta doug lacoii	2	N OBL	5 - Wetland Non-Vascular Plan	nts <sup>1</sup>
10. CIJSIVM NETURSE	5	N FAC	Problematic Hydrophytic Vege	tation <sup>1</sup> (Explain)
11. Equisition asvertse	5	N FAC	<sup>1</sup> Indicators of hydric soil and wetlar be present, unless disturbed or pro-	
Woody Vine Stratum (Plot size: 301 100116)		= Total Cover		
1. Rubus arminiacus	10	FACU	Hydrophytic	
2			Vegetation V	NI -
% Bare Ground in Herb Stratum		= Total Cover	Present? Yes <u>A</u>	No
Remarks:				

Sampling Point: 1271

anth							the absence	of indicators.		
Depth	Matrix			x Feature						
(inches)	Color (moist)	%	Color (moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks		
10	10422/1	100		-		-	10 anny	14it hardpain. @ 10", Likel		
							1.	conditive from substation	4 forve	
								2011		
	3									
	3									
						:				
Noe: C=C	oncentration, D=De	nlation PM-	Boducod Matrix, C	S=Covoro	d or Coate	d Sand Gr	aine <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix		
	Indicators: (Appli					d Gand Gr		ors for Problematic Hydric Soils		
Histosol	i (A1)		Sandy Redox (	S5)			2 cr	n Muck (A10)		
	pipedon (A2)		Stripped Matrix				Red Parent Material (TF2)			
Black H	istic (A3)		Loamy Mucky I		1) ( <mark>excep</mark> i	MLRA 1)				
_ Hydroge	en Sulfide (A4)		Loamy Gleyed	Matrix (F2	2)		Other (Explain in Remarks)			
_ Deplete	d Below Dark Surfa	ce (A11)	Depleted Matrix	c (F3)						
_ Thick D	ark Surface (A12)		Redox Dark Su	rface (F6)			<sup>3</sup> Indicate	ors of hydrophytic vegetation and		
	Mucky Mineral (S1)		Depleted Dark	•	-7)			nd hydrology must be present,		
<u> </u>	Gleyed Matrix (S4)		Redox Depress	sions (F8)			unles	s disturbed or problematic.		
	Layer (if present):									
	ensure	_						4		
Туре:							Hydric Soil	Present? Yes No	<u>×                                    </u>	
	ches):									
Depth (in						· 2				
Depth (in		uncrete,	probably pag	04 W	u silosi	diray f	oundation	. Layer is not an act		

## HYDROLOGY

-No

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) Water-Stained Lear	ves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2) MLRA 1, 2, 4A,	and 4B) 4A, and 4B)
Saturation (A3) Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1) Aquatic Invertebrat	es (B13) Dry-Season Water Table (C2)
Sediment Deposits (B2) Hydrogen Sulfide C	dor (C1) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Oxidized Rhizosph	eres along Living Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4)	ed Iron (C4) Shallow Aquitard (D3)
Iron Deposits (B5) Recent Iron Reduct	ion in Tilled Soils (C6) FAC-Neutral Test (D5)
Surface Soil Cracks (B6) Stunted or Stressed	Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7) Other (Explain in R	emarks) Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)	
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes <u>No X</u> Depth (inches):	
Saturation Present? Yes No Y Depth (inches):	Wetland Hydrology Present? Yes No $X$
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks	

13/48-b 11-2-11 (13) WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 105941 SUBStat Jan	City/County: Mt. Shares of Sisting Date: 11520201
Applicant/Owner: PLON Carp	State: <u>CA</u> Sampling Point: <u>WC11B</u>
	Section, Township, Range: <u>BUNW, TUDN, PHDW</u>
Landform (hillslope, terrace, etc.): TUSTARE	Local relief (concave, convex, none): NMM Slope (%):
Subregion (LRR): 203 Lat: 4	1.305254 Long: 124 324468 Datum: NAD 83
Soil Map Unit Name: Ponto-NUS Complex, 740 5	percent 5/0013 NWI classification: PEMC
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X
Are Vegetation, Soil, or Hydrology naturally provide the second seco	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	ls the Sampled Area within a Wetland?	Yes No
Remarks:			

### **VEGETATION – Use scientific names of plants.**

2 NINAJAY	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30172015)	% Cover	<u>Species?</u> Status	Number of Dominant Species
1 <sub>22</sub>			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 radius)	_0_	= Total Cover	That Are OBL, FACW, or FAC:
	2. 25.		Prevalence Index worksheet:
1,		·	Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =0
4			FAC species $55 \times 3 = 145$
5	-		FACU species $3 \times 4 = 12$
Herb Stratum (Plot size: 5 Tadity)	()	= Total Cover	UPL species $0$ x 5 = $0$
Herb Stratum (Plot size:)	25	VI JAA	Column Totals: $130$ (A) $336$ (B)
1. Carty bospaser	26	- PAC	
2. Junevs ballacus		-I- THEN	Prevalence Index = B/A =
3. Epilabum Cilicitym	- <u>-</u>	A MACAD	Hydrophytic Vegetation Indicators:
4. Lathyrus Latherhum		N_ 013L	1 - Rapid Test for Hydrophytic Vegetation
5. SIDALCLASP.	<u> </u>	N_MI_	∑ 2 - Dominance Test is >50%
6. Oipsacus quillanum	10	N FAC	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7. CARSIUM asvause		N FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8. Hyperteum Desturation	*2	N FACV	data in Remarks or on a separate sheet)
9. MUUSOHUS SPE		NNT	5 - Wetland Non-Vascular Plants <sup>1</sup>
10			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11.			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2 P22765 #	1.50)	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 30 tachtb		Foldi Ooroi	
1			Hydrophytic
2+	-		Vegetation
(A	()	= Total Cover	Present? Yes No
% Bare Ground in Herb Stratum			
Remarks:	Tasut Ma	1 JAN BANK	
NI-No Indacatos, mable to ic	en ry	10 5 600	
		I	

	4)	11-	11 12	į
ampling Point:	W	C	11	1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)         Depth (inches)       Matrix       Redox Features Color (moist)       Matrix       Remarks         0-13       10/12.7/1       100       %       Type <sup>1</sup> Loc <sup>2</sup> Texture       Remarks         13-20       10/12.7/1       100       7.6/12.3/4       10	
(inches)     Color (moist)     %     Type <sup>1</sup> Loc <sup>2</sup> Texture     Remarks       0-13     10/12.7/1     100       100m     6atotalian 0     13 mell	
0-13 10/122/1 100 10am Gaturalian @ 13 Inch	
	-
13-20 7.577 2.5/1 90 7.67R 3/4 10 2m m loany Bavely VEDble Good	15_
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10)	
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2)	
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks)	
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) ↓ Redox Dark Surface (F6) <sup>3</sup> Indicators of hydrophytic vegetation and	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present,	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic.	
Restrictive Layer (if present):	
Type:	
Depth (inches): No	
IYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required)	<u>:d)</u>
Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA	1, 2,
High Water Table (A2)         MLRA 1, 2, 4A, and 4B)         4A, and 4B)	
Saturation (A3) Salt Crust (B11) Drainage Patterns (B10)	
Saturation (A3)      Salt Crust (B11)      Drainage Patterns (B10)        Water Marks (B1)      Aquatic Invertebrates (B13)      Dry-Season Water Table (C2)	/ (09)

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

W-Z-11(C

Project/Site: LOBAN Substantion	City/County: MU Grash Bishya Sam	
Applicant/Owner: Vand Cosp	State: Sam	pling Point: W-24 C (1)48
Investigator(s): Carver, Lippin and	Section, Township, Range: <u>SILOSE, THON</u> ,	
Landform (hillslope, terrace, etc.): TUTTUCL	Local relief (concave, convex, none): <u>MUAL</u>	
Subregion (LRR): <u>ZZB</u> Lat: <u>41</u>	3041940 Long: -122,322445"	Datum: <u>//#0/63</u>
Soil Map Unit Name: Duras Loan Prod Substration	NWI classification:	MARAN
Are climatic / hydrologic conditions on the site typical for this time of ye	r? Yes 📈 No (If no, explain in Remark	(S.)
Are Vegetation, Soil, or Hydrology significantly	listurbed? Are "Normal Circumstances" presen	t? Yes <u> </u>
Are Vegetation, Soil, or Hydrology naturally pro	plematic? (If needed, explain any answers in F	Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, imp	oortant features, etc.
Hydrophytic Vegetation Present? Yes X No		

Hydric Soil Present? Wetland Hydrology Present?	Yes Yes		Is the Sampled Area within a Wetland?	Yes	No	
Remarks: Sample she is located on	a midiga	throw welliond	credied in 412 mid-	goir, See	ramarks ofthe	

Side of pages

## **VEGETATION – Use scientific names of plants.**

RAINANU	Absolute	Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size: 30 Taddits	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1 <u></u>				That Are OBL, FACW, or FAC:	
2				Total Number of Dominant	
3				Species Across All Strata:(B)	
4				Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: 15 Tadddb		= Total Co	ver	That Are OBL, FACW, or FAC: $(A/B)$	
	2	S.L	CAR	Prevalence Index worksheet:	
1. Cratalaus dauglasin			4MC	Total % Cover of: Multiply by:	
2				OBL species () x 1 = ()	
3				FACW species $55 \times 2 = 10$	
4				FAC species $86$ $x_3 = 744$	
5				FACU species $4 = 40$	
/ (march11		= Total Co	ver		
Herb Stratum (Plot size: 5 TadWS)	-	<b>1</b> 17	210		
1. Casex hasharae	- 25	<u> </u>	+AC	Column Totals: <u>153</u> (A) <u><math>0</math> (B)</u>	
2. JUARUS CAROSUS		<u> </u>	FACW	Prevalence Index = B/A =	
3. Phalosis acundymacica		N	FACIN	Hydrophytic Vegetation Indicators:	
4. LANDOUS STOLONAGET	.75	V	EAC	1 - Rapid Test for Hydrophytic Vegetation	
5. (IJSIUM ASTRUSI	35	ý.	FAC	∠ 2 - Dominance Test is >50%	
6. Sildacia SP.	1	Ň	NI	$X$ 3 - Prevalence Index is $\leq 3.0^1$	
7	~~~~	· · · · · · · · · · · · · · · · · · ·		4 - Morphological Adaptations <sup>1</sup> (Provide supporting	
8				data in Remarks or on a separate sheet)	
9				5 - Wetland Non-Vascular Plants <sup>1</sup>	
10				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
11				<sup>1</sup> Indicators of hydric soil and wetland hydrology must	
		= Total Cov	/er	be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: 201 12014)					
1. JUDUS OF MELIACUS	10	<u> </u>	FACU .	Hydrophytic	
2				Vegetation	
		= Total Cov	/er	Present? Yes <u>No</u> No	
% Bare Ground in Herb Stratum					
Remarks:					
NI = NO Indicator, could will relay	Nerrey 4	2 Speci	us (w	H PLOVUE TOLG	

SOIL	
------	--

Sampling Point:

Profile Desc	cription: (Describe f	o the dep	th needed to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix		Redo	x Feature:	S			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0.70	10/10 2/1	100		January .			LOAMA	Saturated @ 186 Willich
n <u></u>	·							·
								· · · · · · · · · · · · · · · · · · ·
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion. RM=	Reduced Matrix, CS	=Covered	d or Coate	d Sand Gr	ains <sup>2</sup> Lo	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Applica							ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Redox (S	\$5)			2 c	m Muck (A10)
Histic E	pipedon (A2)		Stripped Matrix	•				d Parent Material (TF2)
	stic (A3)	2	Loamy Mucky M	• •	I) (except	MLRA 1)		y Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed I					ner (Explain in Remarks)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)				
Thick Da	ark Surface (A12)	5	Redox Dark Sur	face (F6)			<sup>3</sup> Indicate	ors of hydrophytic vegetation and
Sandy N	lucky Mineral (S1)	3	Depleted Dark S	Surface (F	7)		wetla	and hydrology must be present,
	Bleyed Matrix (S4)	5	Redox Depress	ions (F8)			unle	ss disturbed or problematic.
Restrictive	Layer (if present):							5
Туре:								12
Depth (in	ches):						Hydric Soi	I Present? Yes No
Remarks:	and a state of	-i	am 12 a . a	The main	A	c. 11	1 50	N. P. J. Market R.A. Press, V.J.
	saturated at 19	THOMP	Dur Dav s	WEAT OL	ce alla	ok with	en 675	Cert south of Cold Creek;
31398 15	LEVE, WAY	MAGAN	5 & Stored	Y IN GAR	WH WE	1040 DI	BEIND Grown	the wib- COS. When we

differes were reported to provide worker to I is parcel.

#### HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) Water-Stained Leaves (B9) (exc	ept Water-Stained Leaves (B9) (MLRA 1, 2,
High Water Table (A2) MLRA 1, 2, 4A, and 4B)	4A, and 4B)
Saturation (A3) Salt Crust (B11)	Drainage Patterns (B10)
Water Marks (B1) Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Oxidized Rhizospheres along Liv	ving Roots (C3) Geomorphic Position (D2)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Shallow Aquitard (D3)
Iron Deposits (B5) Recent Iron Reduction in Tilled S	Soils (C6) FAC-Neutral Test (D5)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1)	(LRR A) Raised Ant Mounds (D6) (LRR A)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)	
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No 🔀 Depth (inches):	
Saturation Present? Yes X No Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	ections), if available:
Remarks:	9

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region Project/Site: ASSAN Recaude OFOF a(6)6) (uar) Sampling Date: 1551020 City/County: M4. Shad Applicant/Owner: State: Sampling Point: W-7-Section, Township, Range: <u>511/</u>5 UNN VU Investigator(s): Landform (hillslope, terrace, etc.): Terrac Local relief (concave, convex, none): Man L Slope (%): 1/4 Lat: U 130/10830 Long: -122, 323165 Datum: NADE Subregion (LRR): NWI classification: PEMP Soil Map Unit Name: Duna Lang Part SUDSTRALIM 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 \_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.) Are Vegetation SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No is the Sampled Area Hydric Soil Present? Yes No No within a Wetland? Wetland Hydrology Present? Yes No Remarks: Sampling point is in created without unitabilition area VEGETATION – Use scientific names of plants. Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 301 Daboth) <u>% Cover</u> Species? Status Number of Dominant Species 18 That Are OBL, FACW, or FAC: (A) 2. Total Number of Dominant 3. Species Across All Strata: (B) 4. Percent of Dominant Species = Total Cover (A/B) That Are OBL, FACW, or FAC: Sapling/Shrub Stratum (Plot size: 15' radyus) Prevalence Index worksheet: 1. CADDOWS devalost Total % Cover of: Multiply by: 2. x 1 = 65 **OBL** species 3. 13 FACW species x 2 = 4. FAC species x 3 = 5. FACU species = Total Cover Herb Stratum (Plot size: 6' raduk UPL species x 5 = Column Totals: 10 () 133 Schools Durdying (A)(B) 1. Dipusen's Allanum 2. 1.15 Prevalence Index = B/A = 15 50. 3. Hydrophytic Vegetation Indicators: LUDINU2 4 1 - Rapid Test for Hydrophytic Vegetation  $\dot{X}$  2 - Dominance Test is >50% 5. X 3 - Prevalence Index is  $\leq 3.0^{1}$ 6. 7. 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) 8. 5 - Wetland Non-Vascular Plants<sup>1</sup> 9. Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) 10. <sup>1</sup>Indicators of hydric soil and wetland hydrology must  $11_{\odot}$ be present, unless disturbed or problematic. Woody Vine Stratum (Plot size: 301 Padato = Total Cover 1. PYDIS ANNUMIALOS Hydrophytic Vegetation 2. Present? = Total Cover % Bare Ground in Herb Stratum Remarks: NI = NO Indication, calt identify to species

#### SOIL

Sampling Point:

Profile Description: (Description: (Descr						
Inches       Color (moist)       %       Color (moist)       %       Type       Loc <sup>2</sup> Texture       Remarks         O4       IOHEZIZ       DD       Strand	Profile Description: (Describe to the depth	needed to document the in	idicator or co	onfirm the	absence of i	indicators.)
O = #       IOHRZYZ       IOD         # 200       IOYRZYZ       IOD         # 200       IOYRZYZ       IOD         # 200       IOYRZYZ       IOD         # IOYRZYZ       IOD       Style         # IOYRZYZ       IOD       IOYRZYZ         Image: IOYRZYZ       IOD       IOYRZYZ         Image: IOYRZYZ       IOD       IOYRZYZ         Image: IOYRZYZ       IOD       IOYRZYZ         Image: IOYRZYZ       IOYRZYZ       IOD         Image: IOYRZYZ       ION       ION         Image: ION       ION       ION         Image: ION       ION       ION       ION         Image: ION       ION       ION       ION						·
Image: Stand Stan	<u>(inches)</u> <u>Color (moist)</u> <u>%</u>	Color (moist) %	Type' Lo	<u>c~</u>	exture	Remarks
Image: Stand Stan						
Image: Stand Stan	0-7 101/22/2 100			1/19/	2.110	
Type:       C=Concentration. D=Depletion. RM=Reduced Matrix. CS=Covered or Coated Sand Grains.       ?Location: PL=Pore Lining, M=Matrix.         Hydric Soil Indicators:       Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histic Eppedon (A2)       Single Matrix (S3)		VD HILL Z				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)	+- W 104010 40 -	112 414 5		L 100	un-clay_	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)					. (	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)	· · · · · · · · · · · · · · · · · · ·					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils?:         Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histo Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Hydrogen Sulfde (A4)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shaltev Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Trebe Test Surface (Te12)       Polytice Soil Test Surface (TF12)         Trype:       Depleted Matrix (S3)       Polytice Soil Test Surface (TF12)       Polytice Soil Test Surface (TF12)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       Pindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Polytice Soil Present? Yes No         Pertion (Inches):       Hydroic Soil Present? Yes No       No         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         Surface Water (A1)       Water Stained Leaves (B9) (except       A, and 4B)       Doy-Seeson Vater Table (A2)						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils":         Histic Spideon (A2)       Sinpped Matrix (S6)       - 2 cm Muck (A10)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shallow Dark Surface (T12)         Hydrogen Surface (A11)       Depleted Matrix (F3)       - 10 minet Surface (T12)         Trick Dark Surface (A12)       Depleted Matrix (F3)       - 10 minet Surface (T2)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       - 10 minet Surface (F7)         Sandy Mucky Mineral (S1)       Redox Derk Surface (F7)       - 10 minet Surface (F7)         Betted Dark Surface (T2)       Redox Derk Surface (F7)       - 10 minet Surface (F7)         Betted Inches):       - Redox Derk Surface (F7)       - 10 minet Surface (F7)         Remarks:       - Marcular Addres on ponded on W subset Sh osci Wards on Vortig a         Ward March Africa on ponded on W subset Sh osci Wards on Vortig a       - 10 minet Size (S1)         Surface Water (A1)       - Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)       - 10 minet Size (S1)         Surface Water (A1)       - Water-Stained Leaves (B1)       - Doriange Patterns (B10)       - 00 minege Size (S1)         Surface Water (A2)       - Maret Ritizesphe						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils":         Histic Spideon (A2)       Sinpped Matrix (S6)       - 2 cm Muck (A10)       Red Parent Material (TF2)         Black Histic (A3)       Learny Wucky Mineral (T1) (except MLRA 1)       Very Shallow Dark Surface (T12)         Hydrogen Surface (A11)       Depleted Matrix (F3)       - 10 minet Surface (T12)         Trick Dark Surface (A12)       Depleted Matrix (F3)       - 10 minet Surface (T2)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       - 10 minet Surface (F7)         Sandy Mucky Mineral (S1)       Redox Derk Surface (F7)       - 10 minet Surface (F7)         Betted Dark Surface (T2)       Redox Derk Surface (F7)       - 10 minet Surface (F7)         Betted Inches):       - Redox Derk Surface (F7)       - 10 minet Surface (F7)         Remarks:       - Marcular Addres on ponded on W subset Sh osci Wards on Vortig a         Ward March Africa on ponded on W subset Sh osci Wards on Vortig a       - 10 minet Size (S1)         Surface Water (A1)       - Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)       - 10 minet Size (S1)         Surface Water (A1)       - Water-Stained Leaves (B1)       - Doriange Patterns (B10)       - 00 minege Size (S1)         Surface Water (A2)       - Maret Ritizesphe					2	
Histosol (A1)       Sandy Redox (S5)       2 cm Muck (A10)         Histosol (A2)       Stripped Matrix (S6)       Red Parent Material (TF2)         Black Histo (A3)       Learny Muck (Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       Other (Explain in Remarks)         Sandy Mucky Mineral (S1)       Depleted Matrix (F3)       *         Sandy Mucky Mineral (S4)       Redox Dark Surface (F6)       *         Matrix (S4)       Redox Depressions (F8)       *         Depleted Matrix (S4)       Redox Depressions (F8)       *         Remarks:       One Matrix (S4)       No       *         Primary Indicators Orc PTOMINENT but found 1M and/Y about 5h of UAC Sci Vang a       No       *         Matrix (S4)       Water Stained Leaves (B9) (except       Water Stained Leaves (B9) (MLRA 1, 2, 4, 4, and 48)       *         Matrix Matrix (B1)       Water Stained Leaves (B9) (except       Water Stained Leaves (B9) (MLRA 1, 2, 4, 4, and 48)       *         Saturation (A3)       Saturation (Staine Variance (R11)       Drainage Patterns (B10)       *       Saturation Visible on Aerial Imagery (C9)         Saturation (A3)       Saturation (Staine Leaves (B9) (except       4, and 48)       *       *          Saturation (A3)				nd Grains.		
Hitle Epipedon (A2)       Stripped Matrix (S6)       Red Parent Materia (TF2)         Black Histic (A3)       Loamy Blueky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (TF12)         Depleted Below Dark Surface (A11)       Depleted Matrix (F3)       "indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F6)       "indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Hydric Soil Present?       Yes X       No         Remarks:       Concentration of the concentraticon of the concentration of the concentration o	Hydric Soil Indicators: (Applicable to all LR		d.)		Indicators 1	or Problematic Hydric Solls":
Bitck Histic (A3)       Loamy Mucky Mineral (F1) (except MLRA 1)       Very Shallow Dark Surface (TF12)         Hydrogen Surface (A4)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         Bepieted Below Dark Surface (A11)       Depieted Matrix (F3)       ************************************						
Hydrogen Sulfice (A4)       Loamy Gleyéd Matrix (F2)       Other (Explain in Remarks)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Sandy (Medy Mineral (S1)       Redox Dark Surface (F7)       wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layor (if present):       Type:       Hydric Soil Present? Yes X no         Depleted Below Dark Surface (A1)       Hydric Soil Present? Yes X no       No         Remarks:       Medicators (F6)       Wetland Hydrology must be present, unless disturbed or problematic.         Remarks:       Medicators (F6)       No       No         Bepleted Below Dark Surface (A1)       Redox Dark Surface (A1)       Wetland Mydrology must be present, unless disturbed or problematic.         Remarks:       Medicators (F6)       No       Medicators (F6)         Saturation Visible on Agrid Inductors:       Medicators (F6)       No       Medicators (F7)         Saturation (A3)       Saturation (F8)       Saturation (F8)       Saturation (F8)         Saturation (A3)       Saturation Saturation Sibil on Agrid Index (F7)       No       4A and 4B         Saturation (A3)       Saturation Saturation Sibil on Agrid Index (F7)       Saturation Sibil on Agrid Index (F7)         Saturation						· · ·
□ Depleted Below Dark Surface (A11)       ∑ Depleted Marix (F3)       *indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Sandy Micky Minera (S1)       ∑ Depleted Marix (F3)       *indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Retrictive Layor (if present):			• •	RA 1)		, ,
					Other (E	Explain in Remarks)
		<ul> <li>Lotal Administration Mathematical Science (New York, New York,</li></ul>			2	
Restrictive Layer (if present):         Type:			7)			
Type:		_ Redox Depressions (F8)			unless di	sturbed or problematic.
Depth (inches):       Hydric Soil Present? Yes No_         Remarks:       Concurstration of the found in antly about 51. of the Soil Veng a hold only statisticators (minimum of one required) only statisticators (minimum of one required) only statisticators (minimum of one required) (minimum of one required)       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (mLRA 1, 2, 4A, and 4B)         Saturation (A3)       Satt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Staturation (A3)       Satt Crust (B11)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Into Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Sufface Soil Cracks (B6)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (Y7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Water Table Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks	Restrictive Layer (if present):					
Remarks:       Concenditation of the found in any area for the found in any area for the solution of the solutis of the solution of the solutis of the solution of the	Туре:					
Concendrations on province of the found in any around the state of the state o	Depth (inches):			Ну	dric Soil Pre	esent? Yes <u>/</u> No
Concendrations on province of the found in any around the state of the state o	Remarks					
Midd Luws, Artea & pondud on M. Subbandur,         HyproLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Uter-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)       A, and 4B)         Saturation (A3)       Salt Crust (B11)       Dry-Season Water Table (C2)       Saturation Visible on Aerial Imagery (C9)         Oth Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)       Saturation Visible on Aerial Imagery (C9)         Inon Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)       Starface Soil Cracks (B6)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present? Yes       No         Saturation Present?       Yes       No       Dep		and bush Americal Viz		10.0.3 (	61. ma 11	lat boil stand a
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)	Concentration ones and buc broading	EVAL DOL LOUND IN	any or	NOVA :	$O_{14} O_{7} O_{7} O_{7}$	a sont vane of
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)	VARIA LIND, ATER to paralle	Only GIRGARDIN	6			
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)	note the state of ported	ong occorrectly				
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)	HYDROLOGY					
Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)						
High Water Table (A2)       MLRA 1, 2, 4A, and 4B)       4A, and 4B)         Saturation (A3)       Salt Crust (B11)       Drainage Patterns (B10)         Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present? Yes       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present? Yes       No         Chicudes capillary finge)       Depth (inches):       Wetland Hydrology Present? Yes       No       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Suff Waf - SWAM, SWAM & WM - SWAM, SWAM & WAM <td>Primary Indicators (minimum of one required; of</td> <td>heck all that apply)</td> <td></td> <td></td> <td>Secondar</td> <td>ry Indicators (2 or more required)</td>	Primary Indicators (minimum of one required; of	heck all that apply)			Secondar	ry Indicators (2 or more required)
	Surface Water (A1)	Water-Stained Leave	s (B9) ( <b>excep</b>	t	Wate	er-Stained Leaves (B9) (MLRA 1, 2,
Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present? Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present? Yes       No         Saturation Present?       Yes       No       Depth (inches):       No         Chickles capillary fringe)       Depth (inches):       Wetland Hydrology Present? Yes       No         Depth (inches):       Depth (inches):       No       No       Depth (inches):       No         Saturation Present?       Yes       No       Depth (inches):       No       No       Mathematical Present? Yes <t< td=""><td>High Water Table (A2)</td><td>MLRA 1, 2, 4A, a</td><td>nd 4B)</td><td></td><td>4/</td><td>A, and 4B)</td></t<>	High Water Table (A2)	MLRA 1, 2, 4A, a	nd 4B)		4/	A, and 4B)
Water Marks (B1)       Aquatic Invertebrates (B13)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Wetland Hydrology Present? Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present? Yes       No         Saturation Present?       Yes       No       Depth (inches):       No         Chickles capillary fringe)       Depth (inches):       Wetland Hydrology Present? Yes       No         Depth (inches):       Depth (inches):       No       No       Depth (inches):       No         Saturation Present?       Yes       No       Depth (inches):       No       No       Mathematical Present? Yes <t< td=""><td>Saturation (A3)</td><td>Salt Crust (B11)</td><td></td><td></td><td>Drain</td><td>nage Patterns (B10)</td></t<>	Saturation (A3)	Salt Crust (B11)			Drain	nage Patterns (B10)
Sediment Deposits (B2)       Hydrogen Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Oxidized Rhizospheres along Living Roots (C3)       Geomorphic Position (D2)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Shallow Aquitard (D3)         Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):       Depth (inches):       No         Field Observations:       Surface Water Present?       Yes       No       Depth (inches):       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Shallow down down down down down down down do			(B13)			
Drift Deposits (B3)     Oxidized Rhizospheres along Living Roots (C3) X Geomorphic Position (D2)     Algal Mat or Crust (B4)     Presence of Reduced Iron (C4)     Shallow Aquitard (D3)     Iron Deposits (B5)     Recent Iron Reduction in Tilled Soils (C6)     Surface Soil Cracks (B6)     Stunted or Stressed Plants (D1) (LRR A)     Raised Ant Mounds (D6) (LRR A)     Sparsely Vegetated Concave Surface (B8)     Field Observations:     Surface Water Present? Yes No X Depth (inches):     Saturation Present? Yes No X Depth						
				a Roote (C	×7	
Iron Deposits (B5)       Recent Iron Reduction in Tilled Soils (C6)       FAC-Neutral Test (D5)         Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Teld Observations:       Frost-Heave Hummocks (D7)         Surface Water Present?       Yes       No       Depth (inches):         Water Table Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):         Cincludes capillary fringe)       Depth (inches):       Wetland Hydrology Present? Yes       No         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Slope 15 Marly				g 110015 (C		
Surface Soil Cracks (B6)       Stunted or Stressed Plants (D1) (LRR A)       Raised Ant Mounds (D6) (LRR A)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Field Observations:       Frost-Heave Hummocks (D7)         Surface Water Present?       Yes       No X       Depth (inches):         Water Table Present?       Yes       No X       Depth (inches):         Saturation Present?       Yes       No X       Depth (inches):         Saturation Present?       Yes       No X       Depth (inches):         Cincludes capillary fringe)       Depth (inches):       Wetland Hydrology Present? Yes       No X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Sufface Mid-6VMmer during an organization of gain long-4cm dorum dorum M, Sufface Marky, Sufface				- (00)		• • •
Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Frost-Heave Hummocks (D7)         Sparsely Vegetated Concave Surface (B8)       Field Observations:       Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       No       Yes       Yes       Yes       No       Yes				• •		• •
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? YesNo X Depth (inches): Water Table Present? YesNo X Depth (inches): Saturation Present? YesNo X Depth (inches): Depth (inches): Saturation Present? YesNo X Depth (inches): Depth (inches): Depth (inches): Remparks: Siture Wage MSiture Mid-SWMMER dufing @n My digitary from dot with, Staff IS Marky	· · ·			RR A)		
Field Observations:         Surface Water Present?       Yes No _X Depth (inches):         Water Table Present?       Yes No _X Depth (inches):         Saturation Present?       Yes No _X Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:         Remarks:       Site was NSited Mid-SWMMER dufing an My digitary former dufing the Market Superior duf			narks)		Frost	-Heave Hummocks (D7)
Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Water Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Cincludes capillary fringe)       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       Remarks:       Site was Nsited Mid-SWMMer during an My digital lang-4cm dog My, Slaft IS Mark	Sparsely Vegetated Concave Surface (B8)	J				
Water Table Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       No       X       No       X         Remarks:       Gift Was Weil-SVMmer during an orgoing 1 long - 4 com dorug MS, Sloft IS Marky       Sloft IS Marky	Field Observations:					
Water Table Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       X         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:       No       X       No       X         Remarks:       Gift Was Weil-SVMmer during an orgoing 1 long - 4 com dorug MS, Sloft IS Marky       Sloft IS Marky		X Denth (inches):				
Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         (includes capillary fringe)       Depth (inches):	Surface Water Present? Yes No					
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Bit was Noited mid-ouring our during on ongoing 1 long-4 com down MS, Slope 15 Marty						1
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Bite was NSited mid-SUMMER during an ongoing 1 long-term dorught, Slafe 15 nearly	Water Table Present? Yes No	Depth (inches):		Wotland	Hudrology P	recent? Yes No
Remarks: Bite was Noited mid-summer during an ongoigilong-term draght, slope is nearly	Water Table Present?     Yes No       Saturation Present?     Yes No	Depth (inches):		Wetland I	Hydrology P	resent? Yes No
Site was visited mid-summer during an orgonal long-term about the stope is hearly	Water Table Present?     Yes No       Saturation Present?     Yes No       (includes capillary fringe)     No	X         Depth (inches):            Depth (inches):				resent? Yes No
Site was visited mid-summer during an orgonal long-term about the stope is hearly	Water Table Present?     Yes No       Saturation Present?     Yes No       (includes capillary fringe)     No	X         Depth (inches):            Depth (inches):				resent? Yes No
i svel.	Water Table Present?       Yes No         Saturation Present?       Yes No         (includes capillary fringe)       No         Describe Recorded Data (stream gauge, monit	Depth (inches): Depth (inches): toring well, aerial photos, pre	evious inspecti	ons), if ava	ailable:	/
16461.	Water Table Present?       Yes No         Saturation Present?       Yes No         (includes capillary fringe)       No         Describe Recorded Data (stream gauge, monit	Depth (inches): Depth (inches): toring well, aerial photos, pre	evious inspecti	ons), if ava	ailable:	/
	Water Table Present?       Yes No         Saturation Present?       Yes No         (includes capillary fringe)       Describe Recorded Data (stream gauge, monit         Remarks:       Site Was NS: 400 Mid-600000	Depth (inches): Depth (inches): toring well, aerial photos, pre	evious inspecti	ons), if ava	ailable:	/
	Water Table Present?       Yes No         Saturation Present?       Yes No         (includes capillary fringe)       Describe Recorded Data (stream gauge, monit         Remarks:       Site Was NS: 400 Mid-600000	Depth (inches): Depth (inches): toring well, aerial photos, pre	evious inspecti	ons), if ava	ailable:	/
	Water Table Present?       Yes No         Saturation Present?       Yes No         (includes capillary fringe)       Describe Recorded Data (stream gauge, monit         Remarks:       Site Was NS: 400 Mid-600000	Depth (inches): Depth (inches): toring well, aerial photos, pre	evious inspecti	ons), if ava	ailable:	/

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

W-2-11(6)

4/08

Project/Site: 10554520000000	City/C	County: 1481	wata Sishyw_ Sampling Date: 14510201
Applicant/Owner: YMAN CALL			State: Sampling Point:E
Investigator(s): COTVER, DOMCOR	Secti	on, Township, Ra	ange: SILISIA), THON, ZUU)
Landform (hillslope, terrace, etc.): 5100/			convex, none): COM/ON/L Slope (%): 43.1
Subregion (LRR): 223	Lat: 41.30	17-1490	Long: 122,3234740 Datum: NAD83
Soil Map Unit Name: DIUND LOAM, DAD	1 1 1 1		NWI classification: <u>PEM C</u>
Are climatic / hydrologic conditions on the site typical	-	V	
			8
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes X. No
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site (			eeded, explain any answers in Remarks.) locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	No		
Hydric Soil Present? Yes	NoX	Is the Sampled	Y
Wetland Hydrology Present? Yes X	No	within a Wetla	nd? res <u>//</u> No
Remarks: BULGO denservigelation, microdopae concourtemen walking in, despis	fc proxim:444e		Welland mary be magnial at this same
VEGETATION – Use scientific names of	plants.		locoction, but still calling it based an
Tree Stratum (Plot size: 30' TOUGHS)		minant Indicator acies? <u>Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Z (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4	= To	otal Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 0107 (A/B)
1 TALDALDS ODD ASI	) 7 V	FAR	Prevalence Index worksheet:
		194U	Total % Cover of: Multiply by:
2.			OBL species x 1 =
4			FACW species x 2 =
			FAC species $122$ x 3 = $31210$
dir have	7 = To	otal Cover	FACU species $4 = 0$
Herb Stratum (Plot size: 51 TAAN)3		1	UPL species $x_5 = -2$
1. Carux Das garal	100 Y	<u>FAC</u>	Column Totals: <u>125</u> (A) <u>344</u> (B)
2. Dispacus Dulanum	$\underline{}$	V_ FAC	Prevalence Index = B/A =006
3. CITSIUM arvinge		Y_ FAC	Hydrophytic Vegetation Indicators:
4. Carries sendla		V FACW	1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8			5 - Wetland Non-Vascular Plants <sup>1</sup>
9			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11.			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	17.1 = To	tal Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 30 10 MVA	<u> </u>		
1. NEVOUS Archienia 2005	<u> </u>	FACU	Hydrophytic
2			Vegetation
% Bare Ground in Herb Stratum	= To	tal Cover	Present? Yes <u>/ No</u>
Remarks:	Laste de Maria and a	1. See 1	have sold it is an in a set of a set of
Passed Demonance Test, barely d (for you must part), mostly,	2011 D PLOVAL M	ke Index	in a na sa parata very is within the ester
LAGI AMY MIRE LAND LAND			

Sampling	Point:	$\mathcal{W}$	-2	-	l	(	2

SOIL					Sampling P	oint: <u>[JPC1]E</u>
Profile Description: (Describe to t	the depth needed to docur	ment the indicator	or confirm	n the absence o		
Depth Matrix		x Features				
(inches) Color (moist)	% Color (moist)	<u>% Type<sup>1</sup></u>	Loc <sup>2</sup>	Texture _	Remar	0.02
0-7 9,548213/21	00	<u> </u>	~	loomy_	Soturod Vala D	HAMS W Finch
7-20 7.5423/2 1	00 -	<u> </u>	-	1 pauly	Balosalan Ca	Alows, put no
				k		h
		- 3				
		· · · · · · · · · · · · · · · · · · ·				
				:		
<sup>1</sup> Type: C=Concentration, D=Depleti			ed Sand G		tion: PL=Pore Linin	
Hydric Soil Indicators: (Applicabl		,			s for Problematic H	lyaric Soils":
Histosol (A1)	Sandy Redox (			_	Muck (A10)	、 
Histic Epipedon (A2) Black Histic (A3)	Stripped Matrix	: (S6) Vineral (F1) ( <b>excep</b>			Parent Material (TF2 Shallow Dark Surfac	
Hydrogen Sulfide (A4)	Loamy Gleved		CHILINA I)		(Explain in Remark	
Depleted Below Dark Surface (A	_	. ,				
Thick Dark Surface (A12)	Redox Dark Su	• •		<sup>3</sup> Indicator	s of hydrophytic veg	etation and
Sandy Mucky Mineral (S1)	Depleted Dark	Surface (F7)		wetlan	d hydrology must be	present,
Sandy Gleyed Matrix (S4)	Redox Depress	sions (F8)		unless	disturbed or probler	natic.
Restrictive Layer (if present):						
Туре:						*
Depth (inches):				Hydric Soil F	Present? Yes	No 🛴 🛛
Remarks:		y 6	1		*	24
Saturation begins ()	-v-1 inclus; becau	MC NEWY CI	TONOS	El 20 m	his but now	1728 4×0
NOOS EMCONNETED.						
Constant and a						
YDROLOGY						
Wetland Hydrology Indicators:			_			
Primary Indicators (minimum of one	required: check all that app	lv)		Second	lary Indicators (2 or	more required)
Surface Water (A1)		ined Leaves (B9) (	except		ater-Stained Leaves	
High Water Table (A2)		1, 2, 4A, and 4B)			4A, and 4B)	(, ()))
X Saturation (A3)	Salt Crust			Dra	ainage Patterns (B10	))
Water Marks (B1)		vertebrates (B13)			/-Season Water Tab	
Sediment Deposits (B2)		Sulfide Odor (C1)			turation Visible on A	1 /
Drift Deposits (B3)			Livina Roo		omorphic Position (I	
Algal Mat or Crust (B4)		of Reduced Iron (C			allow Aquitard (D3)	, ,

- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)
- Field Observations:

Surface	Water Present?	

Water	Table	Present?	

Saturation Present? (includes capillary fringe)

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

No X

No\_

No \_X\_

Yes

Yes

Yes Х

#### Remarks:

This locathon is app, 50 sect north of Cold Creek, and in a sightly concave crea near que confluence of Cold Creek and in vinamed stream to the aust Capp, 300 feet west.).

4

\_\_\_\_ Recent Iron Reduction in Tilled Soils (C6)

\_\_\_\_ Stunted or Stressed Plants (D1) (LRR A)

\_\_\_\_ Other (Explain in Remarks)

Depth (inches):

Depth (inches):

Depth (inches):

\_\_\_\_ FAC-Neutral Test (D5)

Wetland Hydrology Present? Yes X

\_\_\_ Raised Ant Mounds (D6) (LRR A)

No\_

\_\_\_ Frost-Heave Hummocks (D7)

1)-3-11(人)

## WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Lassun Substantion	City/County:	Shoala/Siskiyan si	ampling Date: 11/51/01/
Applicant/Owner: Part Carp		State:	ampling Point: 10-3-11A
Investigator(s): CAMIS, Lipponcott	Section, Townshi	o, Range: SILE, TYON	244
Landform (hillslope, terrace, etc.):	Local relief (conc	ave, convex, none): <u>Manavia</u>	Slope (%): <u>~~_31/k</u>
Subregion (LRR): 773	_ Lat: 41.3101140	Long: -122,32511	3 Datum:
Soil Map Unit Name: Digas laam, Pros Subal	salum	NWI classification	on: PEMC
Are climatic / hydrologic conditions on the site typical for this	s time of year? Yes	No (If no, explain in Rem	narks.)
Are Vegetation, Soil, or Hydrologys	significantly disturbed?	Are "Normal Circumstances" pres	sent? Yes X No
Are Vegetation, Soil, or Hydrology r	naturally problematic?	(If needed, explain any answers i	in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling po	int locations, transects, i	mportant features, etc.
Hydrophytic Vegetation Present? Yes N			
Hydric Soil Present? Yes V N	lo is the San	pled Area	

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	Is the Sampled Area within a Wetland?	Yes 🔀	_ No
Remarks: This proporty is used for	s cattle grazing-vegeta	itizen is very heavily	graved, alm	1054 40 best ground

### **VEGETATION – Use scientific names of plants.**

20100 /010	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30/ 100005)	% Cover	Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3.			Species Across All Strata:
4,	- 22-		
	-	= Total Cover	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15' radous)	_(	= Total Cover	That Are OBL, FACW, or FAC: $100$ (A/B)
			Prevalence Index worksheet:
1			Total % Cover of: Multiply by:
2			OBL species 0 x 1 = 0
3			FACW species $35$ x 2 = $40$
4			
5,			
	$\overline{\bigcirc}$	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5 Factors)			UPL species x 5 =
1. CARX DAFLARAL	45	Y FAC	Column Totals: $100$ (A) $200$ (B)
2 ALMENTS DOULY LUS	35	YFACW	Prevalence Index = B/A =
3			Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			✓ 2 - Dominance Test is >50%
6			X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			
8			<ul> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> </ul>
9			5 - Wetland Non-Vascular Plants <sup>1</sup>
10			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
11,	100		be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 301 Tadays	100	= Total Cover	
1.			Hydrophytic
2			Vegetation Present? Yes X No
% Bare Ground in Herb Stratum		= Total Cover	
Remarks:	1 1		
Vigolantian is very heavily grazed; ali	Mart 40	u bare ground	k)

SOIL	
------	--

Profile Desc	ription: (Describe	to the dep	th needed to docun	nent the ir	ndicator	or confirm	the absence	of indicators.)
Depth (inchor)	Color (moist)	%	Color (moist)	x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches)	IAND Z/	100			ype		100MU	
<u></u>	1042 71	- 100	7,542.3/10			:		and million will be also
<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	10412011	<u> </u>	<u></u>	10_		VVI	loann	Supportation ~ [ inches
11-20	1012 2/1	. 75	2.542 9/6	25		M	Loany-chy	1 Free Hel at 17 inches
		• 1						
						·		
		•						
2		•				· <u> </u>		
17 0.0							21	
			Reduced Matrix, CS LRRs, unless other			ed Sand Gra		ation: PL=Pore Lining, M=Matrix. rs for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Redox (5					Muck (A10)
	oipedon (A2)		Stripped Matrix					Parent Material (TF2)
Black Hi			Loamy Mucky M		) (excep	t MLRA 1)		Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed I	-				er (Explain in Remarks)
	Below Dark Surfac	æ (A11)	Depleted Matrix					
	ark Surface (A12)		X Redox Dark Su					rs of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark S	•	7)			nd hydrology must be present, s disturbed or problematic.
	leyed Matrix (S4)		Redox Depress				unies	s disturbed of problematic.
Type:	· · · · · · · · · · · · · · · · · · ·							
Depth (inc							Hydric Soil	Present? Yes <u>X</u> No
Remarks:						;		
Remarko.								
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
Primary Indic	ators (minimum of o	one require	d; check all that apply	y)			Secor	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Stai	ined Leave	es (B9) (e	except	W	/ater-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)		MLRA	1, 2, 4A, a	nd 4B)			4A, and 4B)
X Saturatio			Salt Crust					rainage Patterns (B10)
	arks (B1)		Aquatic Inv				•	ry-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen				2.1	aturation Visible on Aerial Imagery (C9)
	oosits (B3)				-	Living Root		eomorphic Position (D2)
	it or Crust (B4)		Presence					hallow Aquitard (D3)
·	osits (B5) Soil Cracks (B6)					ed Soils (C6)		AC-Neutral Test (D5) aised Ant Mounds (D6) ( <b>LRR A</b> )
—	on Visible on Aerial	Imagen/ (B				01) ( <b>LRR A</b> )		rost-Heave Hummocks (D7)
	Vegetated Concav				marks			
Field Obser		e eunace (	20,	-				
Surface Wate		/es	No K Depth (in	ches):				
Water Table		es X	No Depth (in		12			
Saturation P		'es X	No Depth (inc		1	Wetla	and Hydrolog	y Present? Yes <u>X</u> No
(includes cap	oillary fringe)				1			
Describe Re	corded Data (stream	n gauge, m	onitoring well, aerial j	photos, pre	evious in:	spections), i	if available:	
Remarks:	e manzentes l	had	af a litar	d. clark	NR A	eld. the	HANG	loghdly higher ground
THE P	> near que l	UOTION		- March	14 20	ida and	all hante	hisse worlands can mue
nalace	MA JO POTE	Expec	ted 4413 70 0	re upion	NO -OR	and par	IT DUT	Land an area bed sky
to Hou	PERMIN VAC	ler Hag		WW OD	IONCI )	15 acce	w waas	landowner-asked us
NOT 40	ang an gua	+ acces	5 madi					

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

(1)-3-11 (3)

Applicant/Owner:       State:       Sampling Point:       Sampling	Project/Site: 0550 SUDS allan	City/County: 14-64	asta Skili yaw	Sampling Date: 1105002011
Landform (hillslope, terrace, etc.):       Local relief (concave, convex, none):       Slope (%):       Slope (%):         Subregion (LRR):       223       Lat:       130632       Long:       122325313       Datum:       Datum:         Soil Map Unit Name:       Dig       1004504644       NWI classification:       MWI         Are climatic / hydrologic conditions on the site typical for this time of year? Yes       X       No       (If no, explain in Remarks.)         Are Vegetation      , Soil      , or Hydrology       naturally problematic?       (If needed, explain any answers in Remarks.)	Applicant/Owner:		State:	Sampling Point: <u>W-3-11B</u>
Subregion (LRR):       223       Lat:       U1.30632       Long:       122.325313       Datum:       Datum:         Soil Map Unit Name:       Dig       Dig       NWI classification:       NWI classification: <th>Investigator(s): CAD/05, Mappunds</th> <th>Section, Township, Ra</th> <th>ange: <u>51656, 740</u></th> <th>1,244</th>	Investigator(s): CAD/05, Mappunds	Section, Township, Ra	ange: <u>51656, 740</u>	1,244
Soil Map Unit Name:       Diggit Date       Diggit Date       Diggit Date       Diggit Date       NWI classification:       Diggit Date       D				
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.)			_ Long: <u>122,325</u>	313 Datum: <u>MV83</u>
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.)	Soil Map Unit Name: Diya) Loam, plat-Substratu	M	NWI classific	cation: <u>PEMC</u>
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)	Are climatic / hydrologic conditions on the site typical for this time of y	•		
	Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are	"Normal Circumstances"	present? Yes <u>½</u> No
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.	Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If n	eeded, explain any answe	ers in Remarks.)
	F	g sampling point l	locations, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

## **VEGETATION – Use scientific names of plants.**

= Almady 12	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30100005)	<u>% Cover</u>	Species? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3,			Species Across All Strata:
4			
- 2r ar	X	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size: 16 Tallov)			
1			Prevalence Index worksheet:
2			Total % Cover of:Multiply by:
			OBL species x 1 =
3			FACW species $\frac{7}{4}$ x 2 = 152
4			FAC species $47 \times 3 = 141$
5			FACU species x4 =
C I trank A. I.	-()	= Total Cover	UPL species $O$ x 5 = $O$
Herb Stratum (Plot size: 5 Table)	- A -	1 -10	
1. Ranner VIS FLARES	40	FAC	
2. Clycesta declanate	50	FACIL	Prevalence Index = B/A = 2.39
3. Ephabium ciliatum	20	FACIN FACIN	Hydrophytic Vegetation Indicators:
4. Polyadovn articular	"2	N FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Whatthe asvensis	5	N SACW	2 - Dominance Test is >50%
( SISIAMCIANIM SD.		N NE	
7. Mimulus autatos		N OBL	
A mark to abelance		N. FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
	=	Contract Contract Contract Operation	5 - Wetland Non-Vascular Plants <sup>1</sup>
9 Thtolivu Wildenowii	- (-	N_ FACUL	
10. Theolivin Sp.		N_NI	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11. AVMENS DOILLICUS		N_ SACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
DAVIDALIK	[29	= Total Cover	be present, unless disturbed of problematic.
Woody Vine Stratum (Plot size: 30 Tach US)			
1			Hydrophytic
2			Vegetation Present? Yes <u></u> No
×	()	= Total Cover	Present? Yes <u>No</u>
% Bare Ground in Herb Stratum		A	
Remarks:			
NI = NO INDICOLOG Maldero da	HALLIGH	O SPECUS	
140 THE ODVICE ATTOLOGICAL STATE		0 0 000	

SOIL
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	a Ì	2	ID
Sampling Point:	W	51	D

Profile Desc	cription: (Describe	e to the dep	th needed to docum	ent the i	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix			Feature			-	
(inches)	Color (moist)	%	Color (moist)	%	<u>Type'</u>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-1	1041071	100	0 11 10 7.61		-		100m	Caturatian web below SUSPAC
1-13	1076-11	90	215412215/4	10	<u> </u>	M	1 Danny clay	FRAME OF 13 MCMIS
13-20	10112-91	40	2.542215/4	30		M	Joanny Clar	Ч
	·····							1
				-				
							``	
1Tuno: C=C		plotion PM			d or Coate	d Sand Ci		antion: OL-Daro Lining M-Matrix
			Reduced Matrix, CS			a Sana G		rs for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Redox (S					n Muck (A10)
	oipedon (A2)		Stripped Matrix (					Parent Material (TF2)
Black Hi			Loamy Mucky M		1) (except	MLRA 1)		Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed N	-	2)		Othe	er (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matrix				31	
	ark Surface (A12) /lucky Mineral (S1)		X Redox Dark Sur					rs of hydrophytic vegetation and nd hydrology must be present,
	Bleyed Matrix (S4)		Redox Depressi		')			s disturbed or problematic.
	Layer (if present):						1	
Туре:	S. march							
Depth (ind	ches):	_					Hydric Soil	Present? Yes <u>Y</u> No
Remarks:								
	drology Indicators							
		one required	i; check all that apply	)			Secor	ndary Indicators (2 or more required)
	Water (A1)		Water-Stair			xcept	v	/ater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			, 2, 4A, a	and 4B)		A	4A, and 4B)
X Saturatio			Salt Crust (				- A B	rainage Patterns (B10)
	larks (B1) nt Deposits (B2)		Aquatic Inv Hydrogen S					ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
	posits (B3)		Oxidized R			Living Roc		eomorphic Position (D2)
	at or Crust (B4)		Presence o		_	-	,	hallow Aquitard (D3)
	posits (B5)		Recent Iror					AC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted or					aised Ant Mounds (D6) (LRR A)
Inundatio	on Visible on Aerial	Imagery (B						rost-Heave Hummocks (D7)
Sparsely	Vegetated Concav	ve Surface (I	38)					
Field Obser	vations:	_	V					
Surface Wate		-1	No 🔏 🛛 Depth (inc		5	-		
Water Table	Present?	/ <u>/</u>	No Depth (inc		15			X
Saturation Pr		Yes _人_	No Depth (inc	hes):	<u> </u>	_ Wetl	and Hydrolog	y Present? Yes <u>X</u> No
(includes cap Describe Red		m gauge, mo	onitoring well, aerial p	hotos, pr	evious ins	pections).	if available:	
	,	5 5 7 1	<b>0</b>	7.1.1		/,		
Remarks:				1	e 1	<u> </u>		
Surface	HZD is visi	ble with	WM 10-15-14	to t	UM6	SME.		
			Ŷ					

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

W-3-11(C)

1/47

		City/County:	ada/Systeman Sampling Date: 110500701
Applicant/Owner: 240 12 CAN			State: CA Sampling Point: 4-3-11C
Investigator(s): CAUVE Lip Macht		Section, Township, Ra	ange: <u>617NE, TYON, RYW</u>
Landform (hillslope, terrace, etc.):		Local relief (concave,	convex, none): 10-157 Slope (%): 10-157
Subregion (LRR): 223	Lat: 41		Long: -122,327 (205" Datum: 1140 83
Soil Map Unit Name: 10/05 50004 1000			NWI classification: NCM
Are climatic / hydrologic conditions on the site typical for the	this time of vo	as2 Yaa X Na	
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes 📈 No
Are Vegetation, Soil, or Hydrology			eeded, explain any answers in Remarks.)
		sampling point l	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	/	Is the Sampled	d Area
Hydric Soil Present? Yes	~ /	within a Wetla	X
Wetland Hydrology Present? Yes Remarks:	No <u>X</u>		
UPLAND SAMPLE POINT,	Muar 101	47	
VEGETATION – Use scientific names of pla	ants.		
	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' Jacob)	% Cover	Species? Status	Number of Dominant Species
1. Pinus pauderosa		<u> </u>	That Are OBL, FACW, or FAC: (A)
2. Calo Cedars decorrens		Y VPL	Total Number of Dominant
3		·	Species Across All Strata: (B)
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 16' rough)3		_ = Total Cover	That Are OBL, FACW, or FAC: <u>33, 3</u> (A/B)
1			Prevalence Index worksheet:
2.			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species $2 = 0$
5.			FAC species $\underline{50}$ x 3 = $\underline{160}$
	$\overline{O}$	= Total Cover	FACU species $3\ell$ x 4 = $1\ell$
Herb Stratum (Plot size: 5 17404) 5			UPL species $x = 200$
1. Pag annval	50	31	Column Totals: <u>47</u> (A) <u>299</u> (B)
2. Sestilla californis ca	35	FACIL	Prevalence Index = B/A = $300$
3		·	Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9			5 - Wetland Non-Vascular Plants <sup>1</sup>
10			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 301 10011/6)	45	 _= Total Cover	be present, unless disturbed or problematic.
1,			Hydrophytic Vegetation
2		- Total On the	Present? Yes No X
% Bare Ground in Herb Stratum <u>15 1/-</u>		_= Total Cover	7
Remarks: TWO PROPERTY 'S VOID FOR WORSE OF DE	FIMO DIN	JUST STALL .	5 WORLD OTATEL
ma historial is were an amore also	o a secol a vic.	and the former of	. ,

#### SOIL

	112 111
Sampling Point:	W5410

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the in	dicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redo	x Features				
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	54215/1	100					Joanni-	1 mable to dia below 14"
							1	4
·								8
						<u> </u>		
· · · ·				· ·				
2								
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM=F	educed Matrix, CS	S=Covered	or Coate	d Sand Gr	ains. <sup>2</sup> Loo	cation: PL=Pore Lining, M=Matrix,
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless other	rwise note	d.)		Indicato	ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)	-	Sandy Redox (S	S5)			2 cm	n Muck (A10)
Histic Ep	pipedon (A2)		Stripped Matrix					Parent Material (TF2)
Black Hi	• • •		Loamy Mucky N		) (except	MLRA 1)		y Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed			/		er (Explain in Remarks)
	Below Dark Surface	e (A11)	Depleted Matrix					
	ark Surface (A12)	. , _	Redox Dark Su	• •			<sup>3</sup> Indicato	ors of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted Dark	. ,	7)			ind hydrology must be present,
·	leyed Matrix (S4)	5 <u>.</u>	Redox Depress		,			ss disturbed or problematic.
	_ayer (if present):		-				1	
Type:								
	ches):							Present? Yes No
			<u> </u>				Hydric Soli	
Remarks:	Z . CL	a L Is	Allander	o stoom	all	ALS .	en al la	march day 13 roll of the
0011	5 YUNG UNG	una ai	MAILUIT C	(), ()	ND	14102) (	oomple ii	acadhain. Unable cle
	READ IN W			a shared			1	
U Mar 1	SCIENCE IN M	10001						
HYDROLO	GY							
	drology Indicators:							
-	ators (minimum of o		check all that appl	v)			Seco	ndary Indicators (2 or more required)
		nie reguneu,			a (P0) (a)	voont		
	Water (A1)			ined Leave		xcept		Vater-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)			1, 2, 4A, ai	na 4B)		_	4A, and 4B)
Saturation			Salt Crust					Drainage Patterns (B10)
	arks (B1)		Aquatic Inv	vertebrates	(B13)			Dry-Season Water Table (C2)
Sedimer	nt Deposits (B2)	41	Hydrogen	Sulfide Od	or (C1)		s	Saturation Visible on Aerial Imagery (C9)
Drift Dep	oosits (B3)		Oxidized F	Rhizospher	es along l	Living Roo	ots (C3) G	Seomorphic Position (D2)
Algal Ma	it or Crust (B4)		Presence	of Reduced	l Iron (C4	)	s	Shallow Aquitard (D3)
	osits (B5)		1	n Reductio				AC-Neutral Test (D5)
	Soil Cracks (B6)			Stressed I				Raised Ant Mounds (D6) (LRR A)
	on Visible on Aerial I	magery (R7)		plain in Rer		.,		rost-Heave Hummocks (D7)
	Vegetated Concave				naikoj			rost-rieave riuminocks (Dr)
Field Observ			<i>''</i>					
			V					
Surface Wate		'es No	WV/	ches):				
Water Table		es Ne		ches):		<u> </u>		N &
Saturation Pr	resent? Y	'es N	o X Depth (in∉	ches):		_ Wetla	and Hydrolog	y Present? Yes No X
(includes cap							16 11 - 1- 1	
Describe Red	corded Data (stream	i gauge, mon	itoring well, aerial	photos, pre	vious ins	pections),	if available:	
Domostro								
Remarks:	101	110 (1	ALCANI AN	75	And	N		
HINSIO	pe, near 19/	1+110	of south ap	P.CO	4414	) \		
1	1,		1	1				

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: basan Date Une C	ity/County: 14.64554 1835 1 Sampling Date: 145-0120
Applicant/Owner:	State: <u>CA</u> Sampling Point: <u>W-1-15/A</u> )
Investigator(s): CAUVIT LADDER COM	ection, Township, Range: SIUNW, TYMN, 744
	ocal relief (concave, convex, none): <u>CANCANL</u> Slope (%): Za
	19 01 10220ng: -122019 30,552 Datum:
	n and Deets gravely NWI classification: New
Are climatic / hydrologic conditions on the site typical for this time of year	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly di	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally prob	lematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area within a Wetland? Yes	/ No
Remarks:			

#### VEGETATION – Use scientific names of plants.

ZAUTA AR	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 20'100003)	<u>% Cover</u>	Species?	Status	Number of Dominant Species 7
1. Pinus ponderosa (Alva peription	<u> </u>		VPI.	That Are OBL, FACW, or FAC
2. ceda- Calecingtris dicultrais	- <del></del>	<u> </u>	UPL	Total Number of Dominant
3. Quercus Kullugari	- <u></u>		N	Species Across All Strata: (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 16 Dadt	3	= Total Co	ver	That Are OBL, FACW, or FAC: 0.29 (A/B)
	5	1	AVI	Prevalence Index worksheet:
1. Rusa 3.			WI	Total % Cover of: Multiply by:
2	·			OBL species 7 x1= Z
3				FACW species $30 \times 2 = 72$
4			<u> </u>	FAC species $17$ x 3 = $201$
5				FACU species $20$ x4 = $100$
1 cm Altr	5	= Total Co	ver 👻	UPL species $1 \times 5 = 5$
Herb Stratum (Plot size: 5100-145)	6.0	1	510	Column Totals: $137$ (A) $384$ (B)
1. cares monociticitie	60-		PAC	
2. Junars sp. hullow		<u> </u>	FACIN	Prevalence Index = B/A =
3. MINININS QUIANTIAND	5		FALL	Hydrophytic Vegetation Indicators:
4 Timothy grass Philaden productse	2		FAC.	1 - Rapid Test for Hydrophytic Vegetation
5. Rumex sal rifoldis			FACW)	2 - Dominance Test is >50%
6. Solomons Stal	2.		M	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7. Viola	5	,		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8. Festica of broimoides	20	<u> </u>	FA(1)	data in Remarks or on a separate sheet)
9. BIVE Barasse	3		·	5 - Wetland Non-Vascular Plants <sup>1</sup>
10. Muhlenberga filiformia	5		FACIN	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
11. Nasturnen - Aquatica NAAMITYVA	2		Mala	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
17 Huleus Idination 51 ( addressing ())	135	= Total Cov	ver FA/	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 301 VAND	5%			
1,				Hydrophytic
2				Vegetation
	()	= Total Cov	/er	Present? Yes No
% Bare Ground in Herb Stratum				
Remarks:	120.	an ekon	Xet	
NT = No Indicateo, indiale 40 ide		V		
* Plot Size was larger than used on	extuer 5	VEVIUS	here c	ud took in g. lot of the adjacent
upland arrea to the Marth, The	5 MONY	accain	UTOP P	MU MON- WORDING VER SELW,
US Army Corps of Engineers				Western Mountains, Valleys, and Coast - Version 2.0

#### SOIL

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# Sampling Point: W-1-5(A)

1	inplient. (Decentre	to me dopt	in needed to docu	ment the li	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Features	4			
(inches)	Color (moist)		Color (moist)	%	Type'	_Loc <sup>2</sup>	Texture	Remarks
0-10	10104	100			<u> </u>			Store an alging any surgere
	() <b>—</b>				-			~ ~ ~
	A 1- 77							·
15-16	1042 91	UNO.	215123/1	10		m	Clemen	FILL 470 AD 16 TURGES
14-20)	1017 2/1	Q (1)	21540 3/1	T/U	7:1	M	Malien	
	4-2-10-2-10-2-10-2-10-2-10-2-10-2-10-2-1	· · · · ·		·	-62		-6-10-1-4	
·	10			•				
	12			• ——•	<u> </u>			· · · · · · · · · · · · · · · · · · ·
				•				
	oncentration, D=Dep					d Sand G		cation: PL=Pore Lining, M=Matrix.
	Indicators: (Application	able to all L			d.)			ors for Problematic Hydric Soils <sup>3</sup> :
Histosol		-	Sandy Redox (					m Muck (A10)
Black Hi	pipedon (A2)	-	Stripped Matrix Loamy Mucky I	. ,	) (oreast			Parent Material (TF2)
	en Sulfide (A4)	-	Loamy Mucky I Loamy Gleyed			WILKA 1)		y Shallow Dark Surface (TF12) er (Explain in Remarks)
	d Below Dark Surface	e (A11)	Depleted Matrix	• • •			011	
	ark Surface (A12)	. , .	X Redox Dark Su				<sup>3</sup> Indicate	ors of hydrophytic vegetation and
Sandy M	/lucky Mineral (S1)	-	Depleted Dark	Surface (Fi	7)			and hydrology must be present,
	Eleyed Matrix (S4)		Redox Depress	sions (F8)			unles	ss disturbed or problematic.
	Layer (if present):		2					
	were not		<u>e</u>					*
Depth (inc	ches):						Hydric Soil	Present? Yes 🤾 No
Remarks:								
A								
18								
							÷	
HYDROLO	GY						2	
Wetland Hyd	GY drology Indicators: cators (minimum of o	ne required	; check all that appl	<b>v</b> )			Seco	ndary Indicators (2 or more required)
Wetland Hyd	drology Indicators: cators (minimum of o	ne required			s (B9) (e	xcept		ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1. 2.
Wetland Hyd Primary India Surface	drology Indicators: cators (minimum of o Water (A1)	ne required	Water-Sta	ined Leave		xcept		Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hyd Primary India Surface High Wa	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne required	Water-Sta MLRA	ined Leave 1, 2, 4A, a		xcept	V	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary India Surface High Wa X Saturatio	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne required	Water-Sta MLRA Salt Crust	ined Leave <b>1, 2, 4A, a</b> (B11)	nd 4B)	xcept	v X c	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10)
Wetland Hyd       Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)	ne required	Water-Sta MLRA Salt Crust Aquatic In	ined Leave 1, 2, 4A, a	nd 4B) (B13)	xcept	V ,X c ,X c	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hyd       Primary India       Surface       High Wa       Saturation       Water M       Sedimer	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1)	ne required	Water-Sta MLRA Salt Crust Aquatic In Hydrogen	ined Leave <b>1, 2, 4A, a</b> r (B11) vertebrates	nd 4B) (B13) or (C1)			Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hyd       Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	ne required	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od	nd 4B) (B13) or (C1) es along	Living Roo	V ∑ ⊑ ots (C3) ∑ C	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hyd         Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ne required	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizosphere	nd 4B) 6 (B13) or (C1) es along 1 Iron (C4	Living Roo	V ☆ ⊏ ∑ ⊂ ots (C3) ∑ ⊂ s	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2)
Wetland Hyd         Primary India         Surface         High Wa         Saturation         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne required	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	ined Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduced	nd 4B) (B13) or (C1) es along d Iron (C4 in in Tilleo	Living Roo ) d Soils (Cé	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ ↓ □ ↓ ↓ □ ↓ ↓ □ ↓ ↓ □ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hyd         Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In	magery (B7	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or ) Other (Exp	ined Leave 1, 2, 4A, a (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (Cé	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) (AC-Neutral Test (D5)
Wetland Hyd         Primary India         Surface         High Wa         Saturatio         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep         Surface         Inundatio         Sparsely	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave	magery (B7	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or ) Other (Exp	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizospher of Reduced in Reductio <sup>c</sup> Stressed I	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (Cé	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> )
Wetland Hyd         Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations:	magery (B7 9 Surface (B	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted of Other (Exp 88)	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizospheno of Reduced in Reduction Stressed I olain in Rer	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (Cé	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> )
Wetland Hype         Primary India         Primary India         Surface         High Wa         Saturation         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep         Surface         Inundation         Sparsely         Field Observation	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye	magery (B7 e Surface (B es N	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 38)	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizosphere of Reduced in Reductio Stressed I blain in Rer ches):	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (Cé	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> )
Wetland Hype         Primary India         Primary India         Surface         High Wa         Saturatio         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep         Surface         Inundatio         Sparsely         Field Obser         Surface Wate         Water Table	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye	magery (B7 e Surface (B es N	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 8) No Depth (in Depth (in	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizosphere of Reduced in Reduction Stressed I blain in Rer ches): ches):	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (C6 1) (LRR A	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> ) Frost-Heave Hummocks (D7)
Wetland Hype         Primary India         Primary India         Surface         High Wa         Saturatio         Water M         Sedimer         Drift Dep         Algal Ma         Iron Dep         Surface         Inundatio         Sparsely         Field Obser         Surface Water         Vater Table         Saturation Prime	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye present? Ye	magery (B7 e Surface (B es N es N	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 38)	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizosphere of Reduced in Reduction Stressed I blain in Rer ches): ches):	nd 4B) or (C1) es along d Iron (C4 n in Tilleo Plants (D	Living Roo ) d Soils (C6 1) (LRR A	V ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □ ↓ □	Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> ) Frost-Heave Hummocks (D7)
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Wetland Hyd Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely Field Obser Surface Wate Water Table Saturation Pr (includes cap	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye present? Ye	magery (B7 e Surface (B es N es N es N	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted of Stunted of Other (Exp 88)	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizosphere of Reduced n Reduction Stressed I blain in Rer ches): ches): ches):	e (B13) or (C1) es along d Iron (C4 n in Tillec Plants (D narks)	Living Roo ) d Soils (C6 1) (LRR A (LRR A		Vater-Stained Leaves (B9) ( <b>MLRA 1, 2,</b> <b>4A, and 4B)</b> Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ( <b>LRR A</b> ) Frost-Heave Hummocks (D7)
Wetland Hyd Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely Field Observ Surface Water Water Table Saturation Pr (includes cap	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye present? Ye poillary fringe) corded Data (stream	magery (B7 e Surface (B es N es N gauge, mod	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 88) Depth (in Depth (in Depth (in nitoring well, aerial	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizospheno of Reduced n Reduction Stressed I blain in Rer ches): ches): ches): photos, pre	e (B13) or (C1) es along d Iron (C4 n in Tillec Plants (D narks)	Living Roo ) d Soils (C6 1) (LRR A (URR A Wetl pections),		Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) (AC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) irost-Heave Hummocks (D7)
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Wetland Hype Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obserr Surface Water Water Table Saturation Pr (includes cap Describe Rec	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Ye present? Ye poillary fringe) corded Data (stream	magery (B7 e Surface (B es N es N gauge, mor	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 88) Depth (in Depth (in Depth (in nitoring well, aerial	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizospheno of Reduced n Reduction Stressed I blain in Rer ches): ches): ches): photos, pre	nd 4B) (B13) or (C1) es along 1 Iron (C4 n in Tillec Plants (D narks) 2 1 vious ins 2 1 vious ins 2 1 vious ins	Living Roo ) d Soils (Ce 1) (LRR A Wetl pections),	$\begin{array}{c} & & \\ & & \\ & & \\ & & \\ \end{array} \\ \begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) y Present? Yes No
Wetland Hype Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obserr Surface Water Water Table Saturation Pr (includes cap Describe Rec	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial In y Vegetated Concave vations: er Present? Yo Present? Yo present? Yo positary fringe) corded Data (stream	magery (B7 e Surface (B es N es N gauge, mod	Water-Sta MLRA Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp 88) Depth (in Depth (in Depth (in nitoring well, aerial	ined Leave <b>1, 2, 4A, a</b> (B11) vertebrates Sulfide Od Rhizosphere of Reduced n Reduction Stressed I blain in Rer ches): ches): photos, pre MB 6 -5 (	A (B13) or (C1) es along d Iron (C4 n in Tillec Plants (D narks)	Living Roo ) d Soils (Ce 1) (LRR A Wetl pections), Diff O((	$ = \frac{V}{\sqrt{2}} = $	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) (AC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) irost-Heave Hummocks (D7)

### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Application       State:       Sampling Point:       & Sampling Point: <th>N</th> <th></th> <th>City/County</th> <th>MISha</th> <th>Sampling Date: 14742015</th>	N		City/County	MISha	Sampling Date: 14742015
Landom (RH)       Load role (concerv. conex, none)       Notice       Slope (s), Status         Subregion (LRR)       Lat:					
Subregion (LRR):					
Soil Map Unit Name:       Different Gapta       Soil Soil Soil Soil Soil Soil Soil Soil	~~~				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (if no, explain in Remarks.)         Are VegetationSoil or Hydrology		the second second second		10 C	A []
Are VegetationSoilor Hydrologyinpricently disturbed?       Are 'Normal Circumstances' present? Yes No         Are VegetationSoilor Hydrologynaturally problematic?       (ff 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         Hydrophytic Vegetation Present? Yes No         Wetland Hydrology Present? Yes No         If the Sampled Area within a Wetland? Yes No         Wetland Hydrology Present? Yes No         If the Sampled Area within a Wetland? Yes No         Wetland Hydrology Present? Yes No         If the Sampled Area within a Wetland? Yes         Wetland Hydrology Present? Yes         Yes	Soil Map Unit Name: DIAL GRAVMY SAVAY JOAN	NJ 54015	> pescant	510013	NWI classification:
Are Vegetationorl Hydrologynaturally problematic? (ff needed, explain any answers in Remarks.)         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.         Hydrophylic Vegetation Present? YesNo	Are climatic / hydrologic conditions on the site typical for	this time of yea	ar? Yes _>	<u> </u>	(If no, explain in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.         Hydrophytic Vegetation Present?       Yes       No         Hydrophytic Vegetation Present?       Yes       No         within a Wetland Pythology Present?       Yes       No         Remarks:       WELMAN Source For the scientific names of plants.         Tree Stratum (Plot size:       S. Diradius       Absolute Dominant Indicator Secrets? Status         1. Works parameters       1       Yes       No         2. Data Marks and the scientific names of plants.       Total Number of Dominant Species       That Are OBL, FACW, or FAC:       (A)         3	Are Vegetation, Soil, or Hydrology	_significantly	disturbed?	Are '	"Normal Circumstances" present? Yes 🔏 No
Hydrophytic Vegetation Present?       Yes       No         Hydric Soll Present?       Yes       No         Wetland Hydrogy Present?       Yes       No         Remarks:       UPUAND Source Point       Yes       No         Wetland Hydrogy Present?       Yes       No       Yes       No         Remarks:       UPUAND Source Point       Module Point       Yes       No         VEGETATION - Use scientific names of plants.       Absolute       Dominance Test worksheet:       Number of Dominant Species         1.       Yes       1       Yes       Absolute       Dominance Test worksheet:       (A)         2.       Auto Source       Yes       Yes       (A)       Total Number of Dominant Species       (A)         3.       2       = Total Cover       Parcent of Dominant Species       (A)       (AB)         1.       Yes       2       = Total Cover       Multiply by:       (AB)         2.       Cover of       Xelliphytic Vegetation Indicators:       (A)       (AB)         3.       Cover of       Xelliphytic Vegetation Indicators:       (A)         4.       Cover of       Xelliphytic Vegetation Indicators:       (A)         1.       Auto Solution Solution Sories	Are Vegetation, Soil, or Hydrology	_ naturally pro	blematic?	(lf ne	eeded, explain any answers in Remarks.)
Hydric Soli Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No         Remarks:       UPUAND SAMPUG POLINT       within a Wetland?       Yes       No	SUMMARY OF FINDINGS – Attach site ma	p showing	samplin	g point l	ocations, transects, important features, etc.
Induct color resent?       Ves       No       within a Wetland ?       Yes       No         Remarks:       UPUAND 5000 Present?       Ves       No			la th	o Comulad	4
Weeland hydrology resent/r       res       No         Remarks:       WARND SAMPLE RANK         VECETATION - Use scientific names of plants.         Iree Stratum (Plot size: 3.0) TDAMS       Absolute % Cover       Dominant Indicator % Cover       Number of Dominant Species Number of Dominant Species 1.       Total Number of Dominant Species Percent of Dominant Species 1.       (B)         2.       Advoid Advoid Rest       1.       Y       When       (B)         3.       2.       = Total Cover       Fact worksheet: Total % Cover of Dominant Species 2.       (C)       (C)         1.       2.       = Total Cover       Fact & Cover of Multiply by: OBL species 2.       (C)       (C)         2.       2.              3.               4.               1.               2.               3.               4.				-	
VPGETATION - Use scientific names of plants.         Tree Stratum (Plot size: 30/17/4/W)         1. Drugs paradrassing       1       Y       Mathematicator % Cover       Dominant Indicator % Bare Ground in Herb Stratum       Dominant Species 7.       That Are OBL, FACW, or FAC: 7.       (A)         2. Calculations       1       Y       Mathematicator % Bare Ground in Herb Stratum       (Plot size: 15/17/4/W)       (A)         3		N0			
Tree Stratum (Plot size: 3.0/10.01%)       Absolute % Cover       Dominant Indicator Species 7       Dominant Species That Are OBL, FACW, or FAC: 7(A)         2.       Calor (20.01%)       Cover       Total Number of Dominant Species That Are OBL, FACW, or FAC: 7(A)         3.       -       -       -       -         4.       -       -       -       -         2.       -       -       -       -       -         3.       -       -       -       -       -       -         3.       -       -       -       -       -       -       -         3.       -	VPLAND SAMPLE POLN	T			
Tree Stratum (Plot size: SD TRAMS       Number of Dominant Species         1.       Y	VEGETATION – Use scientific names of pla	ants.			
1. Drw/s purpties of Dominant Species       1       Y	The Charles 2 DI The day				Dominance Test worksheet:
2.       A.       Total Number of Dominant Species         3.       2.       = Total Cover         3.       2.       = Total Cover         1.       2.       = Total Cover         1.       2.		% Cover	Species?	-1 - 3	
3.       7       Iotal Number of Dominant Species Species Across All Stratum (Plot size: 15 1 marks)       (B)         4.       2       = Total Cover       Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)         1.       2       = Total Cover       Prevalence Index worksheet:       (A/B)         2.       3.				IPPL	
Sapling/Shrub Stratum       (Plot size:       Signal Stratum       (Plot size:       Signal Stratum       (Plot size:       (A/B)         1					
Saping/Shrub Stratum       (Plot size: 15 MARMS)         1.	4	- 2	= Total Co	ver	
1.	Sapling/Shrub Stratum (Plot size: 15 JACAN 5		- Fotal Oo		
2.	18				
3.	2			<u> </u>	
4.	3.	_		. <u> </u>	
Herb Stratum (Plot size: $\Box$ $\Box$ = Total Cover       UPL species $x 5 = 5^{+}$ 1. Malwas $\Box$ $\Box$ $\Xi$ $\Box$ $\Box$ $\Box$ $\Box$ 2. Mark ball $\Box$ $\Xi$ $\Xi$ $\Box$	4			·	
Herb Stratum (Plot size:       1 </td <td>5</td> <td><math>-\overline{a}</math></td> <td>- Tatal Ca</td> <td></td> <td>FACU species x 4 =10 U</td>	5	$-\overline{a}$	- Tatal Ca		FACU species x 4 =10 U
1. Halws lawards       20       X       FAC         2. Poalah Nol       70       X       FAC         3. Carex balbarar       10       FAC         4. Monables autrant       10       FAC         4. Monables autrant       10       FAC         5. Flatur       10       FAC         6.       10       FAC         7.       1       Rapid Test for Hydrophytic Vegetation         8.       1       Remarks or on a separate sheet)         9.       1       4         10.       11.       10         11.       10.       11.         12.       2.5       Total Cover         Woody Vine Stratum (Plot size: 30' Total S)       2.5       Total Cover         Woody Vine Stratum 30.       10.       10.       11.         2.       9.       1.       10.       11.         2.       9.       10.       11.       10.       11.         2.       9.       1.       10.       11.       10.         1.       2.       9.       10.       11.       11.         2.       9.       10.       11.       11.         3. <t< td=""><td>Herb Stratum (Plot size: 5 Talk</td><td></td><td></td><td>ver</td><td></td></t<>	Herb Stratum (Plot size: 5 Talk			ver	
3.       Carce ballwrac       10       FML         4.       Monodl 25 AUT addiauts       5       FMLU         5.       FLEVIA Dramates       10       1         6.       1       Rapid Test for Hydrophytic Vegetation         7.       2       Dominance Test is >50%         8.       3       Prevalence Index is <3.01		20	X	FAC	Column Totals: <u>77</u> (A) <u>759</u> (B)
3. CATCK Dalbarat       10       54.0         4. Monodulus AUT audiauus       5       54.0         5. Statuta branches       10       2 - Dominance Test is >50%         6.       3 - Prevalence Index is <3.0 <sup>1</sup> 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)         9.		20	<u> </u>	FAC	Prevalence Index = $B/A = 3.30$
5. <u>FLORVLA Dramadus</u> 10. <u>Y</u> FALV       2 - Dominance Test is >50%         6		(_)			
6.		5		FACU	1 - Rapid Test for Hydrophytic Vegetation
7.		<u>- ro</u>	_ <u>,×</u>	RACU	2 - Dominance Test is >50%
8.					3 - Prevalence Index is ≤3.0 <sup>1</sup>
9.      5 - Wetland Non-Vascular Plants <sup>1</sup> 10.      Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)         11.      Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)         11.      Problematic Hydrophytic soil and wetland hydrology must be present, unless disturbed or problematic.         Woody Vine Stratum (Plot size:					
10.					5 - Wetland Non-Vascular Plants <sup>1</sup>
11.					Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size:     O Tadilys       1.				· · · · · · · · · · · · · · · · · · ·	
1.		75	= Total Cov	ver	be present, unless disturbed or problematic.
2					
% Bare Ground in Herb Stratum     30     Image: Total Cover     Present?     Yes     No					
% Bare Ground in Herb Stratum     30     = Total Cover			- Total O		Present? Yes No X
Demerica	% Bare Ground in Herb Stratum 30		- Total Cov	ver	
	Demonstrat	e of pav	ement	OPSN	nich izood.

SOIL	
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Sampling Point: <u>W-1-15(</u>73)

Profile Desc	ription: (Describ	e to the de	pth needed to docu	ment the i	ndicator	or confirm	the abser	nce of indicators.)	
Depth	Matrix	545 A		x Features					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	<u>Texture</u>	1	204
0-1U	51 215/1	100						_ Satural an of 14	MCLARS
14-20	5Y 2.5/1	100	~		-	-	-	Saturostian but vo	fourtel.
	-		-						
								-07	
	-		(/ <del>*</del>					-07	
							-		
	-						-		
1-7 0 0							. 2		
			Reduced Matrix, C			d Sand Gra		Location: PL=Pore Lining, M=N ators for Problematic Hydric	
		icable to al	LRRs, unless othe		÷a.)				Solis :
Histosol	. ,		Sandy Redox ( Stripped Matrix					2 cm Muck (A10) Red Barant Material (TE2)	
Black Hi	oipedon (A2) stic (A3)		Loamy Mucky I		) (excent			Red Parent Material (TF2) /ery Shallow Dark Surface (TF1	2)
	n Sulfide (A4)		Loamy Gleyed			WERA I)		Other (Explain in Remarks)	2)
- • •	Below Dark Surfa	ace (A11)	Depleted Matri	•	/		_ `		
·	ark Surface (A12)		Redox Dark Su				<sup>3</sup> Indic	cators of hydrophytic vegetation	and
	lucky Mineral (S1)		Depleted Dark	Surface (F	7)			etland hydrology must be prese	
Sandy G	leyed Matrix (S4)		Redox Depress	sions (F8)			ur	less disturbed or problematic.	
Restrictive I	_ayer (if present):								
Type:	They prove a								
Depth (ind	ches):						Hydric S	Soil Present? Yes	No <u>X</u>
Remarks:									
HYDROLO	GY								
Wetland Hyd	drology Indicators	s:							
Primary Indic	ators (minimum of	one require	ed; check all that app	lv)			Se	condary Indicators (2 or more r	equired)
	Water (A1)			ined Leave	es (R9) (e	rcent		Water-Stained Leaves (B9) (	
	iter Table (A2)			1, 2, 4A, a		NOOPL		4A, and 4B)	, <u>,</u>
Saturatio			Salt Crust		110 407			Drainage Patterns (B10)	
	arks (B1)				c (P13)			- • · · /	
				vertebrate				Dry-Season Water Table (C2)	
	nt Deposits (B2)			Sulfide Oo		Living Deel		Saturation Visible on Aerial In	lagery (C9)
	oosits (B3)				-	Living Root	us (C3)	_ Geomorphic Position (D2)	
	it or Crust (B4) osits (B5)			of Reduce			·)	_ Shallow Aquitard (D3) FAC-Neutral Test (D5)	
	. ,					Soils (C6)		_ ()	
	Soil Cracks (B6)	Imacon /				1) ( <b>LRR A</b> )	/	Raised Ant Mounds (D6) (LR	
	on Visible on Aeria Vegetated Conca			plain in Re	marks)		_	_ Frost-Heave Hummocks (D7)	
		ve Surrace	(B0)			_			
Field Obser		Mar							
Surface Wate			No $\chi$ Depth (in			-			
Water Table		Yes	· ·		4. 1	-			V
Saturation Pr		Yes X	No Depth (in	iches): <u>11</u>	inclue	Wetla	and Hydro	logy Present? Yes	Ng
(includes cap Describe Rep		m dauge im	onitoring well, aerial	nhotos pr	evique ine	nections) i	if available		
Describe iter	colucu Dala (silea	in gauge, n	ionitoring well, aeriai	priotos, pr	evious ilis	pections), i		•	
Densetter									
Remarks:									

# APPENDIX B PHOTOS

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Photo 1. Wetland W-1-11. View is northeast toward the agricultural ditch, from approximately 85 feet (26 meters) southeast of pole 23/48 (taken September 16, 2011).



Photo 2. Wetland W-1-11. View is southwest from edge of ROW, approximately 25 feet east of pole 24/48 (taken September 16, 2011).



**Photo 3. Wetland W-2-11.** View is to the north looking across the man-made mitigation wetland from pole 13/48 (taken September 20, 2011).



Photo 4. Wetland W-2-11. View is to the north from pole 12/48 across the man-made wetland toward Cold Creek (taken September 20, 2011).



Photo 5. Wetland W-2-11. View is north toward the riparian vegetation along Cold Creek, from approximately 25 feet north of pole 10/48 (taken September 20, 2011).



Photo 6. Wetland W-2-11. View is south across the slope wetland toward Cold Creek (taken September 14, 2011).



Photo 7. Wetland W-2-11. View is south across the slope wetland from pole 5/48 (taken September 14, 2011).



Photo 8. Wetland W-2-11. View is from the berm at Hatchery Lane, looking south across the slope wetland. The observed freshwater marsh is visible around pole 5/48 (taken September 14, 2011).



**Photo 9. Wetland W-3-11.** View is from pole 3/48, looking north across the slope wetland. A portion of the reference sample site is visible on the left (taken September 16, 2011).



Photo 10. Wetland W-3-11. View is from pole 2/48 west toward the wetland swale that connects W-3-11 with W-2-11 and Cold Creek (taken September 14, 2011).



Photo 11. Wetland W-3-11. View is north across the slope wetland from pole 1/48 (taken September 16, 2011).



Photo 12. Wetland W-3-11. View is south from pole 21/48 across the exclusion fencing that protects the freshwater mitigation marsh (taken September 16, 2011).



Photo 13. Wetland W-3-11. View is north from pole 21/48 across the northern edge of the slope wetland (taken September 16, 2011).



Photo 14. Wetland W-1-15. View is south along the distribution line from the culvert that contributes water to this slope wetland.



**Photo 15. Wetland W-1-15.** View is south across the slope wetland from the wetland/upland boundary. The transmission line and wetland W-3-11 are visible in the distance.