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An Environmental Consulting Firm

DELINEATION OF WATERS OF THE UNITED STATES AND BIOLOGICAL INVENTORY, 7.5± ACRE WELLAND STUDY AREA, BROWNS VALLEY IRRIGATION DISTRICT TAILWATER RECAPTURE PROJECT, LOCATED WITHIN PORTIONS OF SECTIONS 21, 22, 28, AND 29, TOWNSHIP 16 NORTH, RANGE 5 EAST MDM. BROWNS VALLEY USGS QUADRANGLE, YUBA COUNTY, CALIFORNIA 95918

Update: March 8, 2013

Prepared for:

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INTRODUCTION AND DESCRIPTION OF EXISTING CONDITIONS

This report represents the findings of an updated delineation of "Waters of the United States" and Biological Inventory for the Browns Valley Irrigation District Tail Water Recapture Project. Original surveys were conducted during the spring of 2008 and have been updated continuously through March, 2013. The wetland study area (WSA) is defined as 7.5± acres of undeveloped land located along a 30-foot wide corridor (project footprint) that runs approximately 11,000 feet within Browns Valley, Yuba County, California (see Figure 1). Field surveys were conducted by Marcus Bole, M.S. Principal Wetland Scientist, Charlene Bole, M.S. Wetland Scientist/Botanist, Tina Costella, M.S. Botanist, and David H. Bole. B.S. Wildlife Biologist. The delineation methodologies employed were developed in conjunction with the Corps and are based on the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987), as supplemented by the Regional Supplement - Arid West Region (ACOE Research & Development Center, 2008). The report is hereby submitted to the US Army Corps of Engineers (ACOE) for verification of the findings. For purposes of this document, it is assumed that all delineated features could be wetlands or "other waters of the United States" pursuant to 33 CFR 328.3 (a); 40 CFR 230.3 (s).

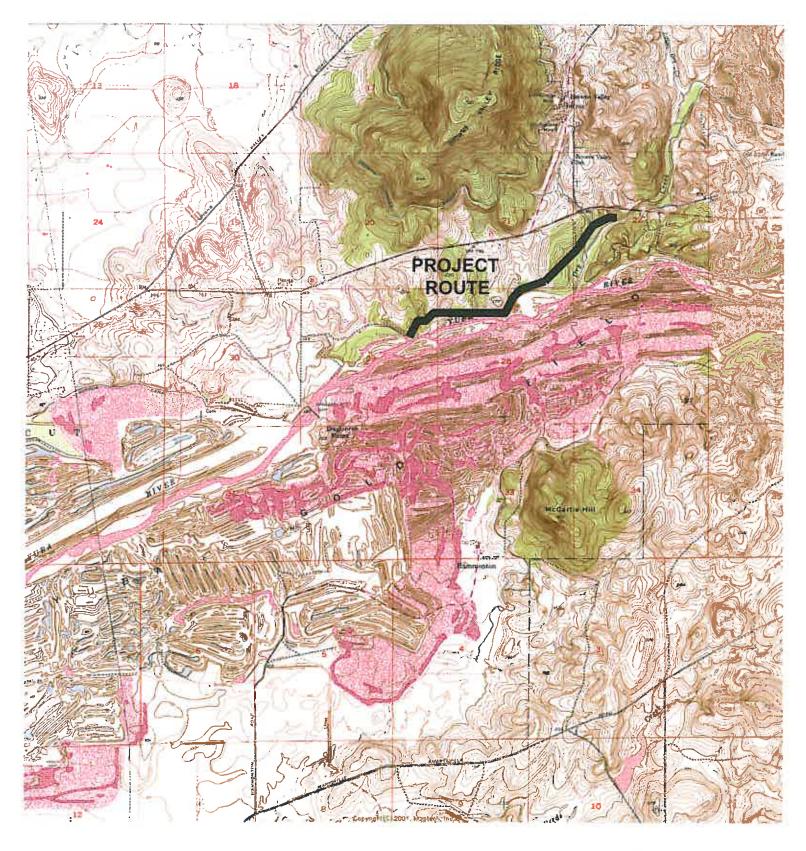
The study concluded that there are currently 0.25± acres of wetlands within the subject 7.5± acre WSA (see Table 1 on page 10). These features are potential "waters of the United States" (WOUS) and include a seasonal drainage with emergent wetland vegetation, two seasonal creeks, and a perennial stream (French Dry Creek [hereafter Dry Creek]). Current project design is for the construction of a pipeline, approximately 11,000 linear feet, to recapture tail water from Dry Creek (near Highway 20) and deposit the water in a man-made canal along the southwest boundary of the WSA. Within the WSA, approximately 1,135 square feet (0.02 acres) of WOUS will be temporarily impacted, and approximately 144 square feet (0.003 acres) will be permanently impacted during the excavation required for the installation of the pipeline and the construction of the concrete pad for the detachable cone screen. In accordance with United States Army Corps of Engineers (ACOE) Nationwide Permit Number 14, Utility Line Activities, these impacts are authorized under the "pre-notification required" conditions set forth in 33 CFR Part 322, March 19, 2007, and Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin. (see Enclosure F)

Wetland Study Area (WSA) Description

The WSA occurs within the Sierra Nevada foothills situated in open grasslands, hardwood woodlands with associated seasonal drainages and creeks within a sycamore grove associated with a trailer park/campground. The majority of the site is used for cattle grazing with a portion of the site bordering dredge-pilings associated past gold mining along the Yuba River.

Topography

The 7.5 acre WSA (30 foot corridor that runs 11,000 linear feet) is in relatively flat terrain with elevations averaging 145± feet above mean sea level (MSL) throughout. The



<u>Site Location Map</u>: Dry Creek Recapture Project, Browns Valley Irrigation District, 7.5 Acre Study Area located within Sections 21, 22, 28 & 29, T. 16 North, R. 5 East, Browns Valley USGS Quadrangle.

nearest major river, the Yuba River, is located south of the proposed project footprint, approximately 115 to 650 feet from the intended route of the proposed pipeline

Seasonal Wetlands

Seasonal wetland habitats and "other waters of the United States" are located within the WSA and are considered federal jurisdictional in accordance with ACOE guidelines and federal regulations.

- 1) Emergent wetlands within seasonal creeks and drainages are located at Data Points 1, 3, 5, 7, 12, 13, and 14. These drainages will be temporarily impacted by the excavation of a three foot wide trench to house the twenty-four inch pipeline. In accordance with conditions set forth in the *Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin*, trenching within seasonal wetland drainages will be sealed with bentonite or other suitable material approved by the Corps.
- 2) French Dry Creek (Dry Creek): Dry Creek is a perennial stream that flows directly into the Yuba River. A removable cone screen will be used to capture tailwater. A twelve foot square (144 square feet) concrete pad will be installed flush with the streambed to hold the cone screen during the temporary time that it is required to capture irrigation tailwater. Water from Dry Creek will be pumped/piped approximately 11,000 feet to the man-made irrigation canal in the far western edge of the WSA.

Upland Vegetation

The dominant understory vegetation is annual non-native grasslands within hardwood foothill woodlands and open grassland areas, within a small portion of a sycamore grove located within the Sycamore Ranch trailer park/campground.

Hydrology

Dry Creek and the Yuba River are the major hydrological features within or near the WSA. Precipitation at this elevation is in the form of rain-fall averaging 34.25 inches annually (*Western Regional Climate Center*, <u>24cc@dri.edu</u>). Typically, most rainfall occurs between the months of October to April.

Watershed

The Yuba River is located on the west side of the Sierra Nevada Mountains of northern California. The South, Middle, and North Forks of the Yuba make up the Yuba River Watershed. The watershed is bordered by the basins of the Feather River to the north, the Truckee River to the east, and the Bear River and American River to the south.

The North Fork of the Yuba flows into New Bullards Bar Reservoir and is joined by the Middle Fork about 5 miles downstream from the 645-foot New Bullards Bar Dam. The South Yuba begins with runoff near Donner Pass high in the Sierra Nevada. Its source is

Lake Angela at 7,190 feet. The South Yuba runs for 64 miles before joining the other two forks at Englebright Reservoir to form the main stem of the Yuba. The watershed area is 1,339 square miles or 1.4 million acre feet.

Soils

Onsite soils, as described in the Soil Survey of Yuba County, California (published by the USDA Natural Resources Conservation Service) are predominately Redding-Corning complex 3-8 percent slopes. This soil unit is on high fan terraces. Native vegetation is mainly annual grasses and forbs. This unit is about 35 percent Redding gravelly loam and 35 percent Corning gravelly loam with small "inclusions" of Corning, Redding and unnamed soil units. The "unnamed" inclusions have been identified as "hydric" soils within seasonal wetlands (vernal pools) due to ponding for long durations. Several of these inclusions were observed near the WSA; however, the pipeline route has been designed to avoid these seasonally ponded areas. Except for the "inclusions" the Redding-Corning soils are not identified as "hydric" in the Hydric Soil Listing for Yuba County (see Appendix)

Interstate or Foreign Commerce Connection

The Yuba River is located south (115 to 650 feet) of the WSA. On-site drainages enter into Dry Creek or the Yuba River. The Yuba River empties into the Feather River at 11± miles southwest of the WSA. At this juncture the Feather River is considered navigable waters of the U.S. Thus, the on-site drainages would be considered connected with and/or adjacent to "Waters of the United States" and would therefore be connected with interstate and/or foreign commerce in accordance with the directives of the United States Army Corps of Engineers.

METHODOLGY

The intent of this delineation is to identify wetlands that are present within the WSA that could fall under the regulatory jurisdiction of the U. S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act. The 1987 Corps of Engineers Wetlands Delineation Manual, as supplemented by the Regional Supplement - Arid West Region (ACOE Research & Development Center, 2008), identifies several methodologies and combinations of methodologies that can be utilized in making jurisdictional determinations. Marcus H. Bole & Associates has employed the Routine On-Site Determination methodology for this study. The Routine On-Site Determination method uses a three-parameter approach (vegetation, soils and hydrology) to identify and delineate the boundaries of jurisdictional wetlands. To be considered a wetland, all three positive wetland parameters must be present. These parameters include (1) a dominance of wetland vegetation, (2) a presence of hydric soils, and (3) hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding. Further description of these parameters is provided below:

1) Vegetation. Wetland vegetation includes those plants that possess physiological traits that allow them to grow and persist in soils subject to inundation and anaerobic soil

conditions. Plant species are classified according to their probability of being associated with wetlands. Obligate (OBL) wetland plant species almost always occur in wetlands (more than 99 percent of the time), facultative wetland (FACW) plant species occur in wetlands most of the time (67 to 99 percent), and facultative (FAC) plant species have about an equal chance (33 to 66 percent) of occurring in wetlands as in uplands. For this study, vegetation was considered to meet the vegetation criteria if more than 50% of the vegetative cover was FAC or wetter.

- 2) Hydric Soils. Hydric soils are saturated, flooded, or ponded in the upper stratum long enough during the growing season to develop anaerobic conditions and favor the growth of wetland plants. Hydric soils include gleved soils (soils with gray colors), or those that usually display indicators such as low chroma values, redoximorphic features, iron, or manganese concretions, or a combination of these indicators. Low chroma values are generally defined as having a value of 2 or less using the Munsell Soil Color Charts (Munsell, 2000 revised). For this study, a soil was considered to meet the hydric soil criteria for color if it had a chroma value of one or a chroma of two with redoximorphic features, or if the soil exhibited iron or manganese concretions. Redoximorphic features (commonly referred to as mottles) are areas in the soils that have brighter (higher chroma) or grayer (lower chroma) colors than the soil matrix. Redoximorphic features are the result of the oxidation and reduction process that occurs under anaerobic conditions. Iron and manganese concretions form during the oxidation-reduction process, when iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. These accumulations are usually black or dark brown. Concretions 2 mm in diameter occurring within 7.5 cm of the surface are evidence that the soil is saturated for long periods near the surface.
- 3) Hydrology. Wetlands by definition are seasonally inundated or saturated at or near the surface. In order for an area to have wetland hydrology, it has to be inundated or saturated for 5% of the growing season (approximately 12 days) (USDA, 1967). Indicators include visual soil saturation, flooding, watermarks, drainage patterns, encrusted sediment and plant deposits, cryptogrammic lichens, and algal mats.

Special Status Species

The following discussion describes the plant and animal species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Listed and special-status species are defined as one of the following:

- Listed or proposed for listing under the state or federal Endangered Species Acts.
- Protected under other regulations (e.g., Migratory Bird Treaty Act).
- California Department of Fish and Game (CDFG) Species of Special Concern.
- Listed as species of concern by the California Native Plant Society (CNPS) or the U.
 S. Fish and Wildlife Service (USFWS).

Special-status species were considered for this analysis based on a special status species list generate by Kleinshcmidt Consultants, field survey results, a review of the California Natural Diversity Database (CNDDB), CNPS literature, and database information provided by the U. S. Fish and Wildlife Service (Browns Valley and adjacent quads of Camp Far West, Honcut, Loma Rica, Olivehurst, Oregon House, Smartville, Wheatland, and Yuba City. 7 ½ Minute Quad database last updated 11/07). Sensitive habitats within the WSA include the seasonal swales, seasonal creeks, and Dry Creek. The project area is within the range of a number of special-status species that are of concern to the CDFG (CNDDB 2012-2013) and U.S. Fish and Wildlife Service (USFWS 2012). A complete list with a narrative is included in Enclosure D.

FIELD STUDIES

Wetland delineation data was collected in accordance with the 1987 Corps methodology as supplemented by the *Regional Supplement - Arid West Region* (ACOE Research & Development Center, 2008. Representative data point sampling was conducted to evaluate the extent and type of potential jurisdictional wetlands and other "waters of the United States." Wetland boundaries were located by GPS and tape measurements. Wetland features and data points were transferred to an aerial map. Paired point samples were taken within the suspected wetland and corresponding upland habitats and were recorded on the Wetland Determination Data Form – Arid West Region (Enclosure C).

Vegetation

Habitat at data point locations was examined for the presence or absence of hydrophytic vegetation and wetland indicator species. Plant species were identified using *The Jepson Manual: Higher Plants of California* (Hickman 1993). Vegetation was described both in terms of coverage and species to determine whether the hydrophytic vegetation criterion was met. Wetland indicator species include those listed as Obligate (OBL), Facultative Wetland (FACW), or Facultative (FAC) in the *National List of Plant Species that Occur in Wetlands: Region 0* (Reed, 1988). Vegetation was examined in spring and summer when plant species were identifiable to species level. It was determined that the hydrophytic vegetation criterion was met if more than 50% of the vegetative cover consisted of wetland indicator species. The wetland vegetation occurring within the WSA was composed of Italian rye (*Lolium perenne*), parrot weed (*Myriophyllum aquaticum*), nutsedge (*Cyperus eragrostis*), Himalayan blackberry (*Rubus discolor*), Baltic rush (*Juncus balticus*), field mint (*Mentha arvensis*), common plantain (*Plantago major*), Fremont's cottonwood (*Populus fremontii* ssp. *fremontii*), and curly dock (*Rumex crispus*).

Soils

Soil maps from the *Soil Survey of Yuba County* (published by the USDA Natural Resources Conservation Service) were studied to identify potential soils (map units) present in the vicinity of the WSA. Soil test pits were dug to a depth of 4 to 20 inches to determine if the WSA soils exhibited hydric characteristics and/or matched the soil types identified by the Soil Conservation Service. Soil was evaluated using the *Munsell Soil*

Color Charts (Munsell, 2000 revised) by hand texturing and diagnostic soil features such as redox depletions and redox concentrations. Hydric soil determination was based on soil texture, matrix color, and /or the presence of redoximorphic features.

RESULTS

Using the methodologies described in the Methods heading, Marcus H. Bole & Associates delineated 0.25± acres of potentially jurisdictional wetland habitats within the WSA (Enclosure E, Wetland Delineation Maps). Information on currently existing vegetation, soils and hydrologic characteristics of each jurisdictional and non-jurisdictional (upland) habitat type is presented below.

Wetland Vegetation

Seasonal Wetland Vegetation within Creeks and Drainages

Creeks and drainages contains a sparse amount of emergent wetland vegetation. The boundaries were delineated by the shift from wetland vegetation to upland vegetation consisting primarily of upland grasses and forbs. Vegetation within these areas is mostly Himalayan blackberry, common plantain and Parrot's-Feather (Myriophyllum aquaticum).

Upland Vegetation

The dominant understory vegetation is annual non-native grasslands and hardwood foothill woodlands, with a small portion of a sycamore grove located within the trailer park/campground.

Soils

Onsite soils, as described in the *Soil Survey of Yuba County, California* (published by the USDA Natural Resources Conservation Service) are predominately Redding-Corning complex 3-8 percent slopes. This unit is about 35 percent Redding gravelly loan and 35 percent Corning gravelly loam with small "inclusions" of Corning, Redding and unnamed soil units. The "unnamed" inclusions have been identified as "hydric" soils within seasonal wetlands (vernal pools) due to ponding for long durations. Several of these inclusions were observed near the WSA; however, the pipeline route has been designed to avoid these seasonally ponded areas by at least 500 feet.

Hydrology

The determination of wetland hydrology was based on observed inundation and saturation in the upper 4 to 20 inches of soil and recorded on *Routine Wetland Determination Data Sheets* (See Enclosure C).

JURISDICTIONAL DETERMINATION SUMMARY

The boundaries of potential jurisdictional habitats were field-verified by collecting data from both inside and outside the suspected boundary. Table 1 presents the acreage of wetland features.

Table 1. Potential Jurisdictional Habitats within 7.5 Acre Wetland Study Area

Waters of the United States	Size in Square Feet (sf.)	Impacts to Waters of the U.S. in Square Feet (sf.)	Impacts (Linear Feet) to Waters of the U.S.
Concrete Lined Irrigation Canal at Data Point 15	25 sf.	Temporary Impacts to 25 sf.	Temporary Impacts to 5 Linear Feet
Seasonal Drainage at Data Point 1/2	840 sf.	Temporary Impacts to 84 sf.	Temporary Impacts to 28 Linear Feet
Seasonal Drainage at Data Point 3/4	1,500 sf.	Temporary Impacts to 150 sf.	Temporary Impacts to 50 Linear Feet
Seasonal Drainage at Data Point 5/6	540 sf.	Temporary Impacts to 54 sf.	Temporary Impacts to 18 Linear Feet
Culvert replacement at Data Point 14	150 sf.	Temporary Impacts to 25 sf.	Temporary Impacts to 5 Linear Feet
Seasonal Drainage at Data Point 13	180 sf.	Temporary Impacts to 18 sf.	Temporary Impacts to 6 Linear Feet
Seasonal Drainage at Data Point 7/8	750 sf.	Temporary Impacts to 75 sf.	Temporary Impacts to 25 Linear Feet
Seasonal Swale at Data Point 12	225 sf.	Temporary Impacts to 45 sf.	Temporary Impacts to 15 Linear Feet
Seasonal Creek (DP 9)	1,500 sf.	Temporary Impacts to 150 sf.	Temporary Impacts to 50 Linear Feet
Culvert replacement at Data Point 10	600 sf.	Temporary Impacts to 45 sf.	Temporary Impacts to 15 Linear Feet
Dry Creek (DP 11)	4,752 sf.	Temporary Impacts to 474 sf.	Temporary Impacts to 158 Linear Feet
Dry Creek Bed - Concrete Pad for Cone Screen		Permanent Impacts to 144 sf.	Permanent Impacts to 12 Linear Feet
TOTAL	11,062 sf. / 0.25 acres	Temporary Impacts: 1,135 sf. / 0.02 acres Permanent Impacts: 144 sf. / 0.003 acres	Temporary Impacts to 387 Linear Feet

BIOLOGICAL INVENTORY FOR SPECIAL STATUS SPECIES

Pre-field Survey

The purpose of the pre-field investigation was to review the Kleinschmidt Consultants query for Special Status Plants and Wildlife species and to determine if these special status species have the potential to occur in the planned project area. Others sources of information used to make this determination are included are as follows:

- California Natural Diversity Data Base (CNDDB) for Browns Valley quad and adjacent quads of Camp Far West, Honcut, Loma Rica, Olivehurst, Oregon House, Smartville, Wheatland, and Yuba City.
- California Native Plant Society Inventory of Rare and Endangered Plants of California (Skinner and Pavik 1994).
- Jepson Manual: Higher Plants of California (Hickman 1995).
- California Department of Fish and Game. 2002. California Wildlife Habitat Resources. CWHR, version 8.0.

Biological Field Survey

The special-status species surveys were performed in the spring of 2008 and updated continuously through February, 2013. These surveys were conducted in a manner to identify any rare or endangered species that may be present during the spring blooming period (CDFG, 2000; USFWS, 1996). Survey protocols that were followed include Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities, Department of Fish and Game, December 9, 1983 (Revised May 8, 2000) and Guidelines for Conduction and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants, USFWS, January 2000. Wildlife surveys were conducted in accordance with standard survey protocols.

Surveys were conducted when most rare or endangered species that could occur in habitats at the site would be evident and identifiable. The botanical surveys were floristic in nature and not based on the occurrence of habitat or other physical features. The botanical survey was conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas. A meandering pattern was walked through each habitat to ensure that all areas were viewed. All plants at the site were identified to the level necessary to ascertain whether they were special status species.

SPECIAL STATUS SPECIES SURVEY RESULTS - PLANTS

Blooming times are recorded according to California Native Plant Society Inventory of Rare and Endangered Plants of California (Skinner and Pavik 1994). The habitat is provided from the California Natural Diversity Data Base (CNDDB). Distinctive characteristics are according to The Jepson Manual, Higher Plants of California (Hickman 1993) and from prior surveys for these plants. Assessment information is from the CNDDB as well as the onsite rare plant field surveys.

During these surveys none of the special status plant species were observed within the 7.5 acre WSA or within a buffer zone 500 feet either side of the WSA. Most of the described species have a very low potential to occur on site because of the following conditions, which have had a major impact on these species, at this site and elsewhere:

- Intensive cattle grazing over a prolonged period of time, presumably over a long duration.
- Introduction of pasture grasses and forbs and other non-native invasive species. The non-native grasses' phenology is such that they are able to out-compete most native annual grasses and forbs throughout the valley and foothill regions.

Ferris' Milk-vetch (Astragalus tener var. ferrisiae)

Status: CNPS 1B.1

Blooming time: April-May; annual

Habitat: Meadows, valley and foothill grasslands. Micro: sub-alkaline flats on overflow land in the central valley; usually seen in dry, adobe soil.

Distinctive Characteristics: Grows in colonies, 35 to 100 plants usually observed; showy flowers; fruit differs from the other two *Astragalus tener* with having incurved fruit, round at the base and not stalked-like.

Assessment to occur within impact area: No sightings within the Browns Valley quad or the adjacent quads (CNDDB). Known only to grow on alkaline soils which are not found within the project area. Low potential to occur within the project area due to soil profiles. None observed during onsite surveys.

Brandegee's Clarkia (Clarkia biloba ssp. brandegeae)

Status: CNPS 1B.2

Blooming time: May-July; annual

Habitat: Chaparral, cismontane woodlands. Micro: often in roadcuts.

Distinctive Characteristics: Showy and abundant flowers; flowers purplish-pink; flower lobes usually 1/5-1/2 the petal length.

Assessment to occur within impact area: Five-occurrences within the Oregon House quad; there is a potential to occur within the project area since it is a species usually found in the foothills of the Sierra Nevada. None observed during onsite surveys.

Dwarf Downingia (Downingia pusilla)

Status: CNPS 2.2

Blooming time: March-May; annual

Habitat: Valley and foothill grasslands (mesic sites), vernal pools. Micro: vernal lakes and pool margins with a variety of associate plants and in several types of vernal pools. Distinctive Characteristics: corolla 2.5-4 mm; white or blue with two minute yellow dots near throat; anthers exerted.

Assessment to occur within impact area: Two occurrences within the Browns Valley quad; no potential to occur within the project area since no vernal pools are present within the project footprint. None observed during onsite surveys.

Ahart's Dwarf Rush (Juncus leiospermus var. ahartii)

Status: CNPS 1B.2

Blooming time: March-May; annual

Habitat: Vernal pools. Micro: restricted to the edges of vernal pools.

Distinctive Characteristics: Small, inconspicuous plant; 1.9-11.6 cm in height.

Assessment to occur within impact area: Ten occurrences in all with one sighting in the Browns Valley quad in a hardpan vernal pool; low potential to occur within the project area due to lack of vernal pools or vernal swales within or near the WSA. None observed during onsite surveys.

Red Bluff Dwarf Rush (Juncus leiospermus var. leiospermus)

Status: CNPS 1B.1

Blooming time: March-May; annual

Habitat: Chaparral, valley and foothill grasslands, cismontane woodlands, vernal pools.

Micro: vernally mesic sites, sometimes within the edges of vernal pools.

Distinctive Characteristics: Small, inconspicuous plant; 1.9-11.6 cm in height.

Assessment to occur within impact area: Only occurrences in the Butte, Shasta, Tehama, and Placer Counties; low potential to occur within the project area due to lack of vernal pools or vernal swales within or near the WSA. None observed during onsite surveys.

Legenere (Legenere limosa)

Status: CNPS 1B.1

Blooming time: March-April; annual

Habitat: Vernal pools; many historical sites have been extirpated. Micro: within the beds of vernal pools.

Distinctive Characteristics: corolla white and inconspicuous; usually found in colonies up to 300 plants; only species within the *Legenere* genus.

Assessment to occur within impact area: Three occurrences within the Browns Valley quad; low potential to occur within the project area due to lack of vernal pools or vernal swales within or near the WSA. None observed during onsite surveys.

Veiny Monardella (Monardella douglasii ssp. venosa)

Status: CNPS 1B.1

Blooming time: May-July; annual

Habitat: Valley and foothill grasslands, cismontane woodlands. Micro: located on heavy clay soils, mostly with grassland associates, rediscovered in 1992.

Distinctive Characteristics: the areas between the bracts silvery translucent with stout flower head and bracts are widely ovate compared to the other sub-species.

Assessment to occur within impact area: Four occurrences within CNDDB; one sighting in the Yuba City quad originally dated 1854 and presumed extirpated. Due to the rarity of this species and lack of heavy clay soils, extremely low potential to occur within or near the WSA. None observed during onsite surveys.

Ahart's Paronychia (Paronychia ahartii)

Status: CNPS 1B.1

Blooming time: March-June; annual

Habitat: Valley and foothill grasslands, vernal pools, cismontane woodlands. Micro: stony, nearly barren clay soils within swales and higher ground around vernal pools. Distinctive Characteristics: inconspicuous plant, 0.5-2 cm; usually found in large colonies forming dense matt easily observed.

Assessment to occur within impact area: Only occurrences are within Butte, Shasta and Tehama counties and found within volcanic uplands. Low potential to occur within the project area due to soil profiles and lack of vernal pools or vernal swales within or near the WSA. None observed during onsite surveys.

Cedar Crest Popcornflower (Plagiobothrys glyptocarpus var. modestus)

Status: CNPS 3

Blooming time: April-May; annual

Habitat: Cismontane woodland. Micro: one historical occurrence with no additional information given.

Distinctive Characteristics: apparently not collected since 1937 and may be a minor variant or hybrid. Flower differs from the other variant by having a smaller corolla, 2-3 mm wide.

Assessment to occur within impact area: No known occurrences within the Browns Valley or adjacent quads. Low potential to occur within the project footprint. None observed during onsite surveys.

Hartweg's Golden Sunburst (Pseudobahia bahiifolia)

Status: CNPS 1B.1

Blooming time: April-May; annual

Habitat: Valley and foothill grasslands, cismontane woodlands. Distinctive Characteristics: largest leaves are entire or three lobed.

Assessment to occur within impact area: One occurrence given for the Yuba City quad dated 1848; in 1994 site reportedly extirpated. Low potential to occur within the project footprint. None observed during onsite surveys.

Northern Hardpan Vernal Pools

This system includes shallow ephemeral water bodies found in depressions (up to several hectares in size) among grasslands and open woodlands throughout intermountain valleys of California, Oregon and the Gulf and San Juan islands of Washington and British Columbia. Northern hardpan vernal pools include an indurated clay or cemented hardpan that retains water inputs throughout some portion of the spring, but typically the depression dries down entirely into early summer months. Due to draw-down characteristics, vernal pools typically form concentric rings of similar vegetation. Given their relative isolation in upland-dominated landscapes, many endemic plant and invertebrate species are common in California vernal pools. Most of these species have a federally or state listing as endangered or threatened.

SPECIAL STATUS SPECIES SURVEY RESULTS - WILDLIFE

Vernal Pool Fairy Shrimp (Branchinecta lynchii) – Federal Threatened Conservancy Fairy Shrimp (Branchinecta conservatio) – Federal Endangered Vernal Pool Tadpole Shrimp (Lepidurus packardi) – Federal Endangered California Linderiella (Linderiella occidentalis) – State Species of Concern

The above listed fairy shrimp, tadpole shrimp and linderiella inhabit vernal pools and vernally mesic sites where water is pooled/ponded sufficiently during the growing season. Vernal pool fairy shrimp, vernal pool tadpole shrimp, and California linderiella all occur within the Browns Valley or adjacent quads; only conservancy fairy shrimp are not listed within these quads. Based on current construction plans, there are no expected impacts to seasonal wetlands that could provide habitat for fairy shrimp. Onsite biological monitoring during trenching near wetland habitats, and mandatory worker awareness training will emphasize identification and avoidance of wetland habitats.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) – Federal Threatened.

Valley elderberry longhorn beetle (VELB) is completely dependent on its host plant, blue elderberry (Sambucus mexicana) (USFWS 1999) which is a common component of riparian habitat throughout the Central Valley. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west. This animal spends most of its life in the larval stage, living within the stems of an elderberry. The adult stage is short-lived; adults emerge from late March through June when the elderberry is starting to flower. The only exterior evidence of their presence is an exit hole created by the VELB larva just prior to the pupal stage.

Several blue elderberry shrubs were observed near the project area, however none of the shrubs are within 100 feet of the proposed trenching. Based on current construction plans, there are no expected impacts to these shrubs. Surveys of the shrubs revealed no exterior evidence of the beetle, i.e. exit holes, frass and/or shredded wood. Although outside of the project footprint, these shrubs will be further protected by placing distinctive orange construction fencing and signage to prevent inadvertent impacts. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

California Red-legged From (Rana aurora draytonii) – Federal Threatened; State Species of Concern.

The current range of the California red-legged frog (CRLF) has been greatly reduced, with most populations occurring along the coast from Marin County to Ventura County, and in several isolated locations in the foothill region of the west slopes of the Sierra Nevada. Current information suggests that CRLF has been extirpated from most of its range within the Sierra Nevada Mountains. Also, there are no known occurrences of CRLF within the Browns Valley quad and the adjacent quads.

Adult CRLF prefer dense, shrubby or emergent riparian vegetation near deep (more than 2.3 feet), still or slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail occur. This subspecies breeds from November through April (Jennings and Hayes 1994). Upland areas provide important sheltering habitat during winter when CRLF are known to aestivate in burrows and leaf litter.

Habitat assessments for CRLF were based on habitat requirements as described in the USFS, February 18, 1997 document on *California red-legged frog ecology and distribution* (USFWS 1997). Aquatic habitats or potential aquatic habitats and adjacent uplands were evaluated by assessing their potential to support breeding, foraging activities, provide refuge and/or aestivation habitat; and, by querying the CNDDB for the Browns Valley quad and the adjacent quads, for sightings of CRLF.

Within the project area there is only one marginally suitable aquatic feature, a small pond, which occurs outside of the project footprint, and over 100 feet from trenching activity. This pond has minimal vegetation around the periphery of the pond and is fed by seasonal runoff from a swale above the pond and to the east. The swale is gently sloping and serves to funnel runoff into the pond during seasonal rainfall. Because this wetland feature (swale) is dry during the spring through the fall, and heavily vegetated with non-native annual grasses and forbs, utilization by CRLF would be limited to the winter and early spring as a dispersal corridor.

Since breeding habitat and associated summer refugia is not present on-site, overall habitat quality for CRLF is marginal, and potential to occur on site is very low. Given there is no hydrologic link between the pond and other aquatic features (e.g. perennial or intermittent streams) in the near vicinity, it is unlikely that this species would utilize this pond, even as a dispersal corridor during the winter and early spring. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Western Spadefoot (Spea hammondii) - Federal Species of Concern; State Species of Concern.

The western spadefoot (WS) ranges throughout the Central Valley and adjacent foothills, and is usually quite common where it occurs. The species occurs primarily in grasslands, but occasional populations also occur in valley-foothill hardwood woodlands (California Wildlife Habitat Relationships System database version 8.0). Vernal pools are essential for breeding and egg-laying for this species (CNDDB 2008). However, there are no known occurrences of the WS within the Browns Valley and the adjacent quads.

Most of the year is spent in underground burrows up to 36 inches deep, which they construct themselves; some will use mammal burrows. Breeding and egg-laying occur almost exclusively in shallow, temporary vernal pools formed by heavy winter rains. The adults remain in underground burrows during most of the year, but the first rains of fall usually initiate surface movements. Breeding activities normally conclude by the end of March.

Within the project footprint, there are no vernal pools that occur, and since this specialized aquatic feature is essential for the breeding and egg laying of the WS, there is no potential for this species to occur within the project footprint. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

California Tiger Salamander (*Ambystoma californiense*) – Federal Threatened; State Species of Concern.

The California tiger salamander (CTS) is most commonly found in annual grassland habitat, but also occurs in the grassy understory of valley-foothill hardwood habitats. Its range includes the Central Valley from Yolo County south to Kern County, and from coastal areas near San Francisco Bay south to Santa Barbara. CNDDB was queried for CTS occurrences within the Browns Valley and adjacent quads; there are no sightings within these quads.

Tiger salamanders spend most of their time underground, often in ground squirrel or pocket gopher burrows, under rotting logs, and occasionally in man-made structures. The first rains of November usually trigger adult migrations to breeding ponds. Breeding ponds are typically vernal pools or other small, temporary water sites that fill during winter rains and dry out by mid-summer. The breeding season generally lasts from December through February. The larvae transform during the late spring/early summer, and usually disperse from breeding ponds by early July.

All wetland features and other aquatic habitats within the project footprint were evaluated relative to their potential to provide temporary or permanent suitable habitat for the CTS. The project is not located within Critical Habitat for CTS. Since the swales convey water and do not have sufficient ponding/pooling for this species to breed, there is no potential for CTS to occur within the project footprint. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Northwestern Pond Turtle (Actinemys marmorata marmorata) – State Species of Concern.

The northwestern pond turtle (NPT) is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. The NPT is associated with permanent or nearly permanent water in a wide variety of habitat types. Within the Browns Valley and adjacent quads, this species occurs within the Browns Valley quad and adjacent quad of Oregon House. During the field surveys one mature carapace was observed near the project footprint.

The NPT is typically found along streams with deep pools, rocks, and logs that provide basking sites and safe underwater retreats, and it is considered a thoroughly aquatic turtle. It usually stays near water, but females travel over land, up to 325 feet, to lay eggs. Egg laying usually occurs between April and August when the females will climb onto land to

dig a nest, along stream or pond margins, where they lay a clutch of 2 to 11 eggs. Some females will lay two clutches in a year, while others lay eggs every other year.

Within the general area there is a perennial pond that would provide suitable habitat for the NPT. It is a medium sized pond, which occurs adjacent to the project footprint, approximately 100 feet away from the trenching activity. Since suitable habitat occurs on-site there is a potential for the NPT to occur on or near the project footprint. The pond will be protected by distinctive orange construction fencing and signage to prevent inadvertent impacts. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

American White Pelican (Pelcanus erythrorhynchos) - No listings

The American white pelican (AWP) only nests in two locations in California, in the large lakes in the Lower Klamath National Wildlife Refuge (Siskiyou County) and the Clear Lake Reservoir (Modoc County). As a result, the AWP would not use the proposed site for breeding grounds. However, during migration the Yuba River could be used for foraging or roosting along the edge of the water, or on the sandbars. The proposed project footprint is well set-back from the river and should not disrupt possible foraging or roosting activities along the waters' edge. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Great Blue Heron (Ardea herodias), Great Egret (Adrea alba), Snowy Egret (Egretta thula), and Black-crowned Night-Heron (Nycticorax nycticoras) - Rookeries

All above-mentioned species are colonial nesters. CNDDB revealed no occurrences within the Browns Valley quad and the adjacent quads. All wetland features and other aquatic habitats within the proposed project footprint were evaluated relative to their potential to provide suitable nesting habitat for these species. Within the grasslands/hardwood woodlands there is no suitable habitat and therefore there is no potential for rookeries to occur. The Sycamore Ranch (trailer park and campground) the trees could provide nesting and roosting sites, however, since this is a high-use area the potential would be very low for rookeries to occur. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Bald Eagle (Haliaeetus leucocephalus) - Federal Delisted; State Endangered

The bald eagle (BE) is a permanent resident and uncommon winter migrant, breeding mostly in the northern counties of California. There is only one occurrence (#139) within Oregon House quad, an adjacent quad, located at Virginia House Reservoir.

The bald eagle requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. It swoops from hunting perches, or soaring flight, to

pluck fish from water. Occasionally it pounces on displaced voles, or other small mammals in flooded fields.

It nests in large, old-growth, or dominant live trees with open branch work, especially ponderosa pine. The BE nests most frequently in stands with less than 40% cover (California Wildlife Habitat Relationships System version 8.0). In California 87% of the bald eagles nest sites were within 1 mile of water (California Wildlife Habitat Relationships System version 8.0). Although the potential to nest within the proposed project footprint is extremely low, the BE could possibly be found foraging along the Yuba River and/or the open grasslands adjacent to the project footprint. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Swainson's Hawk (Buteo swainsoni) - State Threatened

The Swainson's Hawk (SH) occurs as a breeding species in open habitats throughout much of the western United States and Canada, and in northern Mexico. In California, breeding populations of SH occur in desert, shrub steppe, grassland and agricultural habitats. However, the overwhelming majority of the state's breeding sites are in two disjunct populations in the Great Basin and Central Valley (California Partners in Flight Riparian Bird Conservation Plan 1998). Migrating individuals move south through the southern and central interior of California in September and October, and north March through May. Grasslands on the site provide potential foraging habitat if sufficient prey is available during the spring and summer months.

This hawk forages by soaring at low and high levels in search of prey; they also may walk on the ground to catch invertebrates and other prey, and they catch insects and bats in flight. Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves.

In Central California, about 85% of Swainson's hawk nests are within riparian forest or remnant riparian trees (Woodbridge 1998). However, the vast majority of home ranges consist of treeless agricultural lands used for foraging. The abundance and spatial distribution of riparian forest as well as high-quality foraging habitat such as fallow fields and alfalfa fields are both critical determinants of territory suitability.

The CNDDB search revealed one nesting site location (occurrence #1490), approximately 5.5 miles south west from the west end of the proposed project footprint. Although there is suitable foraging habitat within the project footprint there is only marginal nesting habitat, including the Yuba River corridor. Riparian habitat along this portion of the Yuba River mostly consists of open stretches of sandbars with only an understory composed of grasses and forbs. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

California Black Rail (Laterallus jamaicensis coturniculus) - State Threatened

The California Black Rail (CBR) is a rarely seen, scarce, yearlong resident of saline brackish and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay, and a few other locations. Within the adjacent quads of Camp Far West, Oregon House and Smartville, there are 42 occurrences listed with CNDDB.

When the CBR occurs in freshwater, it is usually found in bulrushes, cattails and saltgrass and within wetlands without annual and/or daily fluctuations in water levels. Notably, in the quads adjacent to the proposed project footprint, where many sightings have occurred (CNDDB 2008), vegetation is usually composed of cattails in dense thickets, averaging in depth of 10 to 40 meters (30 to 120 feet) (*Probable Breeding Population of the Black Rail in Yuba County, California* Aigner et al. 1995).

The California population of CBR is apparently resident, however they are occasionally found away from wetlands in late summer and autumn, suggesting some post-breeding movement (California Wildlife Habitat Relationships System version 8.0). They may winter in locations where they do not breed.

All wetland features and other aquatic habitats within the project footprint were evaluated relative to their potential to provide temporary or permanent suitable habitat for the CBR. The potential to occur within the proposed project footprint is very low since the pond and the wetland do not have dense thickets of cattails. However, since three-adjacent quads have numerous sightings of the CBR and are in close proximity to the proposed project footprint, it is recommended that prior to ground disturbances a survey of the pond and wetland be completed, using recorded vocalization since this species responds to these recordings (CNDDB). Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Burrowing Owl (Athene cuncicularia) - State Species of Concern

The burrowing owl is a yearlong resident of open, dry grassland and desert habitats, and in grass, forbs and open shrub states of pinyon-juniper and ponderosa pine habitats. This species is common to uncommon in appropriate habitats throughout California, excluding the humid northwest coastal forests and high mountains. Within the Browns Valley quad there is one occurrence (#570); the only given information is "Hammonton, vicinity of the Yuba Gold Fields and southwest of McCartie Hill." This area is within one to two miles of the proposed project footprint.

The burrowing owl uses rodent or other burrows for roosting and nesting cover, usually using nests in old burrows of ground squirrels, or other small mammals. This owl can dig its own burrow in soft soil. It frequents open grasslands and shrub lands with perches and burrows. It usually hunts from a perch or from the burrow site. Home range is 0.1 to 4.0 acres with a mean of 2 acres (California Wildlife Habitat Relationships System

version 8.0). Territory is an average distance between burrows of 436 feet (*California Wildlife Habitat Relationships System* version 8.0).

Although there is suitable foraging and nesting habitat near the project footprint within the open grasslands, there were no burrows observed or burrowing mammals (i.e. ground squirrels) within the project footprint. Potential to occur is minimal without these requirements. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Long-eared Owl (Asia outs) - State Species of Concern

The long-eared owl (LEO) is an uncommon resident or visitant throughout most of the northern part of California, excluding the humid North Coast Range, Cascade Range, and higher elevations of the Sierra Nevada. There is one occurrence (#47) in the Smartville Quad, located within the Spenceville Wildlife Area, and the nest sighting was at the edge of a grassland clearing.

The LEO, a nocturnal owl, uses old crow, magpie, hawk, heron, and squirrel nests in a variety of trees with dense canopy cover. Typically this species eats voles and other rodents, occasionally birds, including smaller owls, and other vertebrates. It searches for prey in low, gliding flight, pounces on prey on the ground, and usually hunts in open areas, sometimes in woodland and forested habitats.

The LEO only makes local movements in California, although some migration may occur (California Wildlife Habitat Relationships System version 8.0). Often the LEO congregates in winter flocks, perhaps including family groups, and there may be some seasonal movement westward from the Sierra Nevada foothills in the fall (California Wildlife Habitat Relationships System version 8.0).

Thirty day prior and seven day prior Pre-Construction nighttime surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

Yellow Warbler (Dendroica petechia brewsteri) - State Species of Concern

The yellow warbler (YW) is an uncommon to common summer resident in northern California. It breeds in riparian woodland from coastal and desert lowland up to 2,500 meters (8,000 feet) in the Sierra Nevada. There is one occurrence (#47) located in the Camp Far West quad, within the Spenceville Wildlife Area.

The YW is usually found in riparian deciduous habitats in summer with vegetation composed of cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodlands. This species usually arrives in California in April, and mostly migrates out of Northern California by October. Often there is a post breeding, upslope movement mostly to middle elevations in the Sierra Nevada (California Wildlife Habitat Relationships System version 8.0).

Although YW could use the hardwood woodlands for migration and foraging, there is no potential for this species to nest within the proposed project area, since there is no suitable nesting habitat of riparian vegetation/corridor. The sycamore grove (trailer park and campground) the dense understory vegetation could provide suitable nesting habitat however, since this is a high-use area the potential would be very low for YW to successfully nest within these areas. Thirty day prior and seven day prior Pre-Construction nesting surveys will be accomplished. Onsite biological monitoring during construction and mandatory worker awareness training will emphasize species identification and avoidance measures.

DISCUSSION OF IMPACTS AND MITIGATION

Significance Criteria

The determination of significance of impacts to biological resources involves an evaluation of the context in which the impact may occur and the intensity and extent of the impact's effect.

Potential direct and indirect impacts to the biological resources were evaluated with respect to mandatory findings of significance of Section 15065 of CEQA and Appendix G of the State CEQA Guidelines. In accordance with these Guidelines a project's effect on biological resources would be considered significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. wetlands, riparian habitats).
- Adverse impacts to special-status species, including species identified as candidate and/or sensitive species.
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. special status habitats, e.g. wetlands).
- Interference with migratory routes.

Impacts to Potential Waters of the US

The construction of the pump station and pipeline as proposed will have result in minor permanent and temporary impacts to potential waters of the U.S. In the 7.58 acre project area, features that would come under jurisdiction of Section 404 of the Clean Water Act include seasonal swales, season creeks and Dry Creek. Proposed pipeline alignments are designed to avoid all potential waters of the United States to the maximum extent practical. Adherence to the special, general and regional conditions in the Nationwide 12 permit will result in wetland impacts that are less than significant.

Mitigation for Potential Waters of the U.S.

Prior to construction, the project site will provide a secure development barrier around the seasonal wetlands that will not be impacted. There are no anticipated changes to surface hydrology from the installation of the pipeline that would adversely affect these protected features. During construction activities, the seasonal wetlands will be protected with the installation of storm wattles, silt fencing or other sediment catching materials, along with orange construction fencing to prevent disturbance of these areas. Adequate erosion and sediment controls (i.e. storm wattles) will be installed around the periphery of all tributaries and wetlands, and will be routinely managed to prevent disturbances to said areas.

To avoid sediment or other materials from entering these habitats if there is a build-up of soils or other materials along the storm wattles, these materials will be graded away from the protected areas routinely and/or prior to a storm event. A staging area, upland and outside to the project footprint, will be established for all construction equipment and refueling operations to avoid pollutants from entering any sensitive habitats.

In accordance with Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin, trenching under the seasonal swales, seasonal creeks and Dry Creek will be sealed with suitable material as approved by the Corps of Engineers.

Potential Impacts to the Water Quality

Trenching within the designated seasonal wetlands (swales and creeks) could have temporary impacts to the water quality. Increased sedimentation could adversely affect downstream aquatic resources, as well as the accidental introduction of wash water, solvents, oil, chemical wastes, or other pollutants. Erosion of disturbed soils could also impair water quality after construction is complete. Establishing these areas as Environmentally Sensitive areas during construction, limiting construction near these features to the dry season, and implementing the Best Management Practices and other mitigation measures discussed below can minimize these potential effects.

Mitigation for Water Quality Impacts

Mitigation measures include assurances that best management practices are adopted in order to minimize the amount of sediment leaving the site during construction activities. Prior to initial construction activities all barriers, storm wattles, silt fencing or other sediment catching materials should be installed around all seasonal wetlands. A staging area, upland and outside of the project footprint will be established for all construction equipment and refueling operations to avoid pollutants from entering any sensitive habitats. A general permit for storm water discharges from construction activities will be obtained through the RWQCB and a Storm Water Pollution Prevention Plan for Construction Activities will be prepared and implemented. In accordance with Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin, trenching under the seasonal swales, seasonal creeks

and Dry Creek will be sealed with suitable material as approved by the Corps of Engineers.

Impacts to Nesting Raptors, Migratory Birds and Bats

The potential exists for impacts to raptors and other migratory birds and bats which are protected under the Migratory Bird Treaty Act to occur on or near the site through the construction activities and tree/vegetation removal, ground disturbances, heavy equipment use, and various other noises that could impact nesting migratory birds and roosting bats.

Mitigation for Nesting Raptors, Migratory Birds, and Bats

If the initial construction activities occur between the times of March 1 to July 31, which is the breeding season for raptors and most migratory bird species, pre-construction nesting surveys will be conducted.

Implementation of these mitigation efforts should minimize impacts to nesting raptors and migratory birds. Any proposed tree removal will be scheduled to avoid the nesting season. If trenching and construction cannot be scheduled to avoid nesting season, preconstruction surveys for nesting raptors shall be conducted by a qualified wildlife biologist to ensure that raptor nests are not being disturbed during construction operations.

A pre-construction survey shall be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (March – April) and no more than 30 days prior to the initiation of these activities during the late breeding season (May – July). During this survey, the qualified wildlife biologist shall inspect all trees in and immediately adjacent to the impact areas for raptor and migratory bird nests.

If the above survey does not identify any nesting raptor species on or near the project footprint, further mitigation is not required. However, should any raptor species be found nesting on or near the project footprint (within 500 feet of trenching activities), the following mitigation measures shall be implemented.

Prior to the issuance of grading permits, the project applicant, in consultation with the California Department of Fish and Wildlife (CDFW) shall avoid all birds of prey or migratory bird nest sites located within or near the project footprint during the breeding season while the nest is occupied with adults and/or eggs or young. The occupied nest shall be monitored by a qualified wildlife biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a no disturbance buffer zone around the nest site. The size of the buffer zone shall be determined in consultation with the CDFW. Highly visible temporary construction fencing shall delineate the buffer zone.

If a legally-protected species nest is located in a tree designated for removal, the removal shall be deferred until after July 31 or until the adults and young are no longer dependent on the nest site, as determined by a qualified biologist.

Impacts to Trees

Pipeline construction may require the removal of a small number of native and nonnative trees along the pipeline route. Additionally, construction activities within close proximity of the trees could have an adverse affect on this resource. The following mitigation measures shall be incorporated into the project design/construction to avoid and/or mitigate effects to these resources.

Mitigation for Impacts to Trees

Trees to be preserved within the project footprint and immediately adjacent to the project footprint will be protected with high-visibility fencing placed at least one foot outside the dripline. Excavating or trenching within the dripline of a protected tree should be avoided whenever practical. However, if unavoidable, any authorized cut or fill occurring within the dripline of any preserved tree should be supervised by an experienced botanist, Registered Professional Forester (RPF), or by an International Society of Arboriculture (ISA) Certified Arborist. All roots severed should be pruned back to undamaged tissue to increase root recovery and reduce the risk of pathogen infection. If pruning, cabling, and other corrective measures for preserved trees should be specified by an experienced botanist or by an RPF or arborist, and should conform to the pruning standards of the Western Chapter of ISA.

Provide Permit Conditions/Mitigation Measures to Contractors/Biological Monitoring

To ensure the proper and timely implementation of all mitigation measures contained in this report, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and any other permit requirements to the contractors prior to grading and construction. Construction workers and supervisor will receive CDFW approved worker awareness training. A qualified biologist will and be on site any time trenching occurs within or near the seasonal, and perennial wetland habitats. This person shall be completely familiar with the special status species issues and the mitigation measures contained above.

SUPPLEMENTAL INFORMATION

Driving Directions

Take Interstate 80 to Roseville, take Hwy 65 to the north (towards Lincoln) to Marysville, follow Highway 20 east from Marysville (towards Grass Valley), take the Marysville Road exit north (towards Browns Valley), turn right on Browns Valley School Road and proceed to the Browns Valley Irrigation District office (9370 Browns Valley School Road)

Contact Information

Browns Valley Irrigation District Office, Attn: Walter Cotter, General Manager, 9370 Browns Valley School Road, Browns Valley, CA. Phone: (530) 742-6044

Email: walter@bvid.org

Wetland Delineator, Botanist & Biologist Contact Information

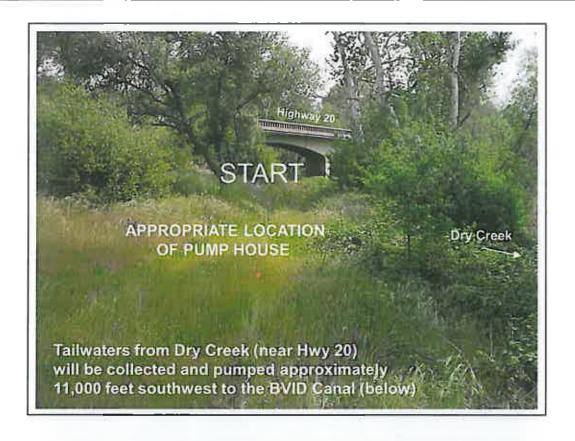
Marcus H. Bole, Principal Wetland Scientist, M.S., North Dakota State University, Marcus H. Bole & Associates, 104 Brock Drive, Wheatland, CA 95692, Phone: 530-633-0117, fax 530-633-0119, Email: mbole@aol.com.

This concludes our biological inventory and wetland determination of the 7.58 acre study area identified as the Browns Valley Irrigation District Tailwater Recapture Project, Yuba County, California. If you have any questions concerning our findings please feel free to contact me directly at: Marcus H. Bole & Associates, Attn: Marcus Bole, 104 Brock Drive, Wheatland, CA 95692, phone 530-633-0117, fax 530-633-0119, email: mbole@aol.com.

Respectfully Submitted:

Marcus H. Bole, Principal Marcus H. Bole & Associates

ENCLOSURE A – SITE PHOTOS AND DATA POINT PHOTOS





MARCUS H. BOLE & ASSOCIATES 104 Brock Drive, Wheatland, CA 95692

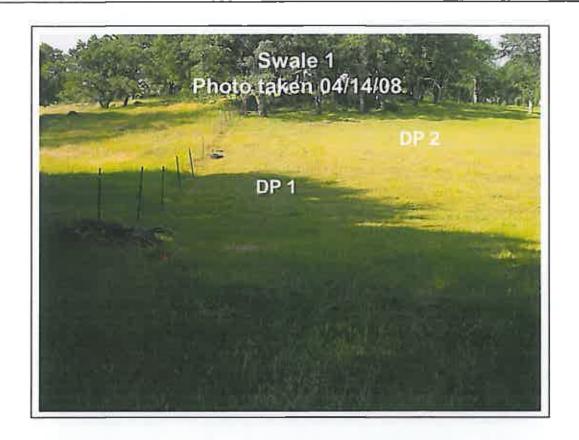
104 Brock Drive, Wheatland, CA 95692 (530) 633-0117, email: mbole@aol.com

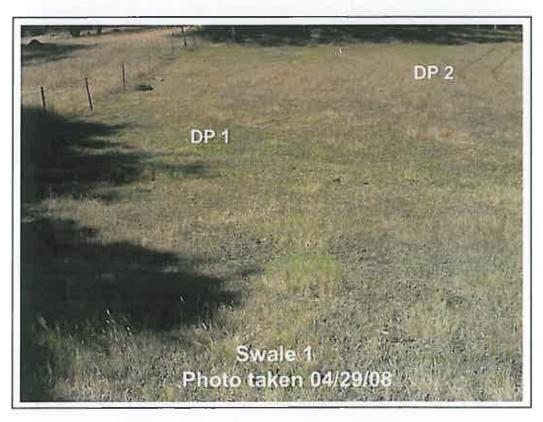
SITE: Dry Creek Tailwater Recapture Project

ITEM: Start & End Points

DATE: April 29, 2008

PLATE: 1



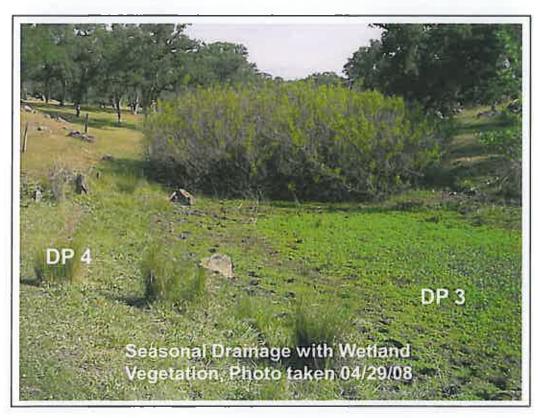


SITE: Dry Creek Tailwater Recapture Project

ITEM: DATA POINTS 1 & 2, Swale 1

DATE: April 29, 2008 PLATE: 2

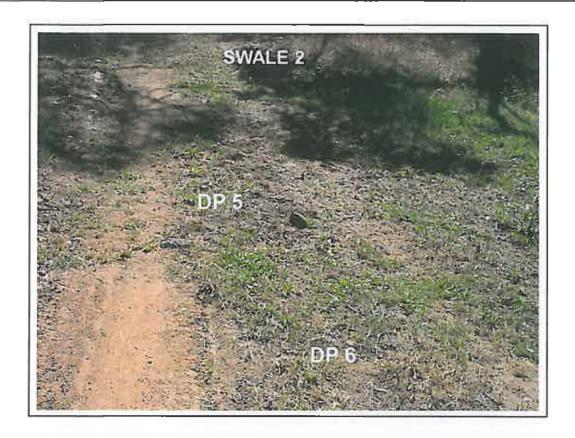


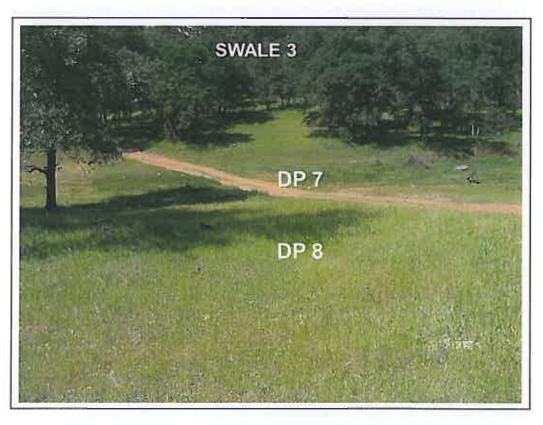


SITE: Dry Creek Tailwater Recapture Project

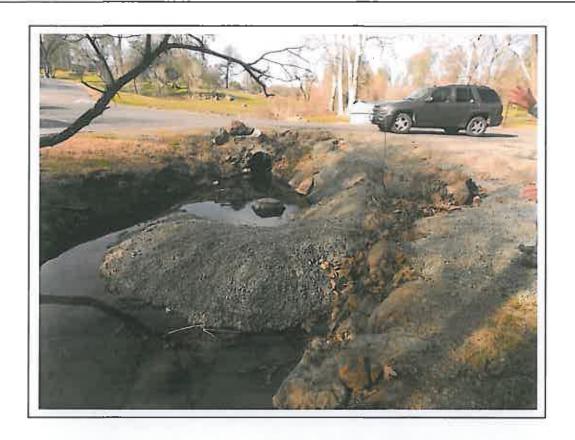
ITEM: DATA POINTS 3 & 4, Drainage

DATE: April 29, 2008 PLATE: 3





SITE: Dry Creek Tailwater Recapture Project ITEM: DATA POINTS 5/6 & 7/8, Swales DATE: April 29, 2008 PLATE: 4

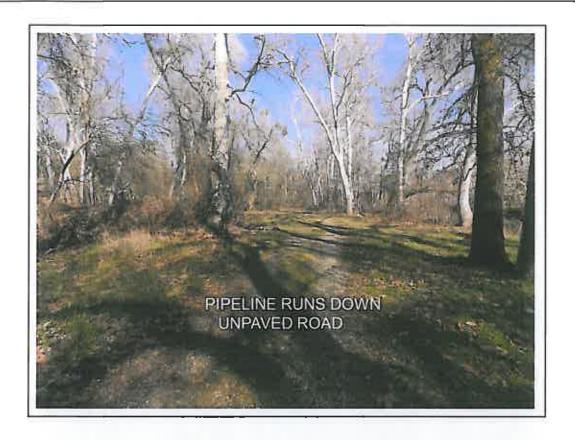




SITE: Dry Creek Tailwater Recapture Project

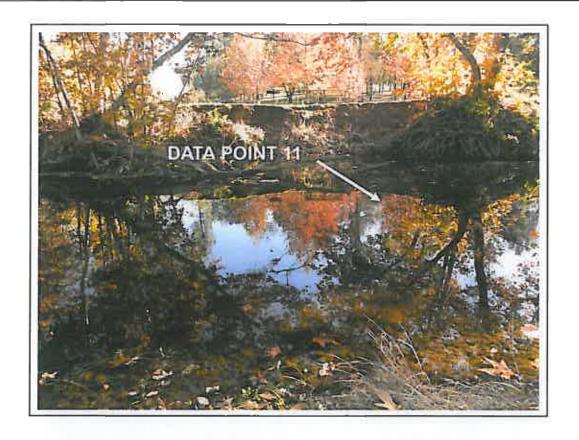
ITEM: Data Point 9, Seasonal Creek

DATE: February 27, 2013 PLATE: 5





SITE: Dry Creek Tailwater Recapture Project ITEM: Data Point 10, Culvert Replacement DATE: February 27, 2013 PLATE: 6



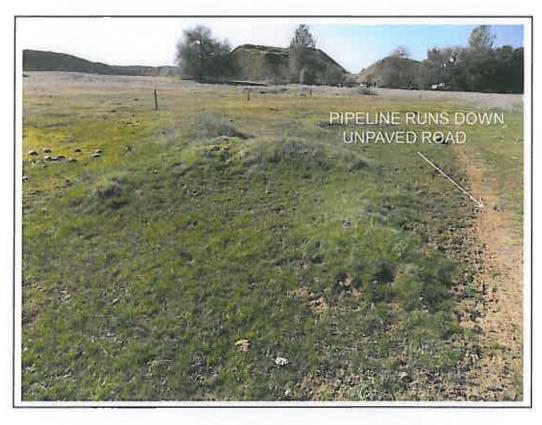


SITE: Dry Creek Tailwater Recapture Project

ITEM: Data Point 11, Dry Creek

DATE: November 21, 2012 PLATE: 7

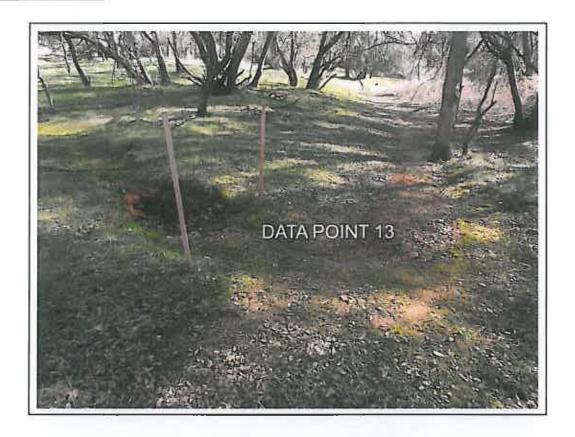


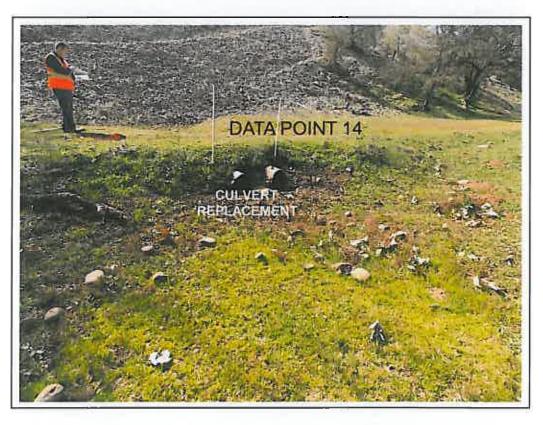


SITE: Dry Creek Tailwater Recapture Project

ITEM: Data Point 12, Seasonal Swale

DATE: February 27, 2013 PLATE: 8





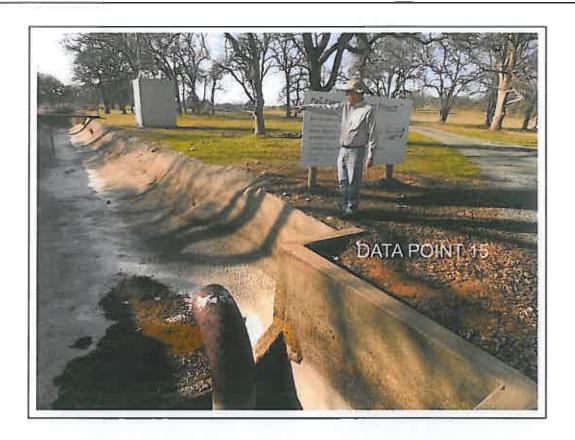
MARCUS H. BOLE & ASSOCIATES 104 Brock Drive, Wheatland, CA 95692 (530) 633-0117, email: mbole@aol.com

SITE: Dry Creek Tailwater Recapture Project

ITEM: Data Points 13 & 14

DATE: February 27, 2013

PLATE: 9





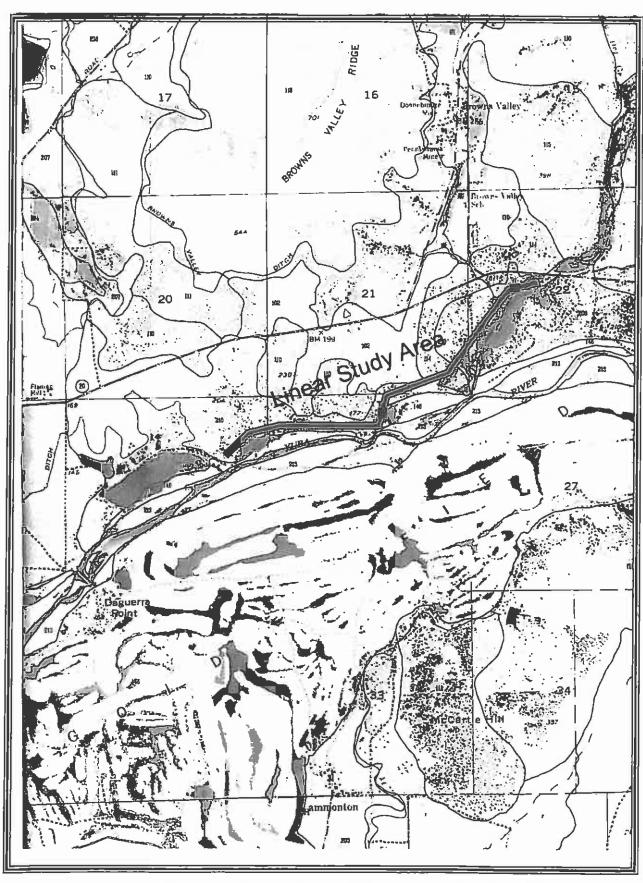
MARCUS H. BOLE & ASSOCIATES 104 Brock Drive, Wheatland, CA 95692 (530) 633-0117, email: mbole@aol.com

SITE: Dry Creek Tailwater Recapture Project

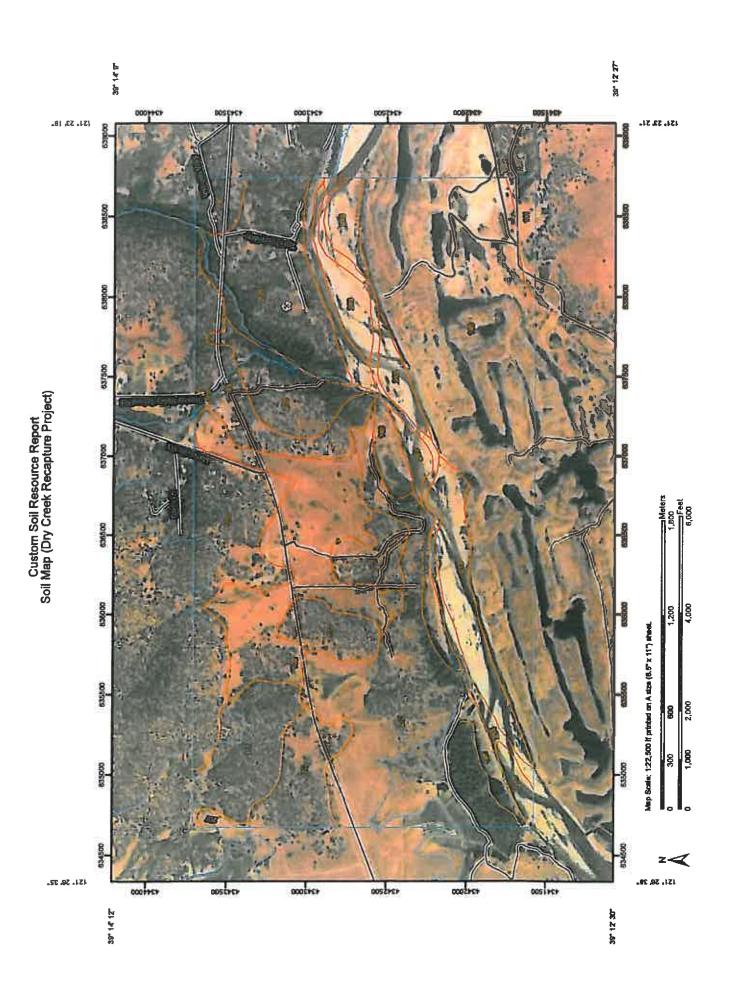
ITEM: Data Point 15

DATE: February 27, 2013 PLATE: 10

ENCLOSURE B – SOIL DATA



Soils Map: Dry Creek Recapture Project, Browns Valley Irrigation District, 7.58 Acre Study Area. Soils are shown as predominately Redding-Corning complex 3-8% slopes (210).



210—Redding-Corning complex, 3 to 8 percent slopes

Map Unit Setting

Elevation: 70 to 250 feet

Mean annual precipitation: 18 to 22 inches Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 270 to 290 days

Map Unit Composition

Coming, gravelly loam, and similar soils: 35 percent Redding, gravelly loam, and similar soils: 35 percent

Minor components: 30 percent

Description of Redding, Gravelly Loam

Setting

Landform: Fan terraces

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Mixed alluvium

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches; 20 to 40 inches to duripan

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Farmland classification: Not prime farmland Land capability classification (irrigated): 4e

Land capability (nonimigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYPAN TERRACE (R017XD079CA)

Typical profile

0 to 6 inches: Gravelly loam 6 to 19 inches: Gravelly loam

19 to 33 inches: Clay 33 to 43 inches: Duripan

Custom Soil Resource Report

Description of Corning, Gravelly Loam

Setting

Landform: Fan terraces

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Mixed alluvium

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Farmland classification: Not prime farmland Land capability classification (irrigated): 4e

Land capability (nonimigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYPAN TERRACE (R017XD079CA)

Typical profile

0 to 24 inches: Gravelly loam 24 to 35 inches: Gravelly clay

35 to 67 inches: Stratified sandy loam to very gravelly clay loam

Minor Components

Unnamed

Percent of map unit: 10 percent Landform: Depressions

San joaquin

Percent of map unit: 10 percent

Unnamed

Percent of map unit: 10 percent

208—Redding gravelly loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 70 to 250 feet

Mean annual precipitation: 18 to 22 inches

Custom Soil Resource Report

Mean annual air temperature: 61 to 63 degrees F Frost-free period: 270 to 290 days

Map Unit Composition

Redding, gravelly loam, and similar soils: 70 percent

Minor components: 30 percent

Description of Redding, Gravelly Loam

Setting

Landform: Fan terraces

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Mixed alluvium

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches; 20 to 40 inches to duripan

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Farmland classification: Not prime farmland Land capability classification (imigated): 4e

Land capability (nonimigated): 4e

Hydrologic Soil Group: D

Ecological site: CLAYPAN TERRACE (R017XD079CA)

Typical profile

0 to 6 inches: Gravelly loam 6 to 19 inches: Gravelly loam 19 to 33 inches: Clay

19 to 33 inches: Clay 33 to 43 inches: Duripan

Minor Components

Unnamed

Percent of map unit: 10 percent

Landform: Depressions

Corning

Percent of map unit: 10 percent

San joaquin

Percent of map unit: 10 percent

Custom Soil Resource Report

Mean annual air temperature: 50 to 57 degrees F Frost-free period: 90 to 180 days

Map Unit Composition

Riverwash: 80 percent Water, perennial: 20 percent

Description of Riverwash

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Properties and qualities

Slope: 0 to 2 percent

Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98

to 19.98 in/hr)

Depth to water table: About 0 to 24 inches

Frequency of flooding: Frequent

Available water capacity: Very low (about 3.0 Inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 7s Hydrologic Soil Group: D

Typical profile

0 to 5 inches: Gravelly coarse sand

5 to 60 inches: Stratified extremely gravelly coarse sand to gravelly sand

254—WATER

Map Unit Composition

Water: 100 percent

ENCLOSURE C – FIELD DATA SHEETS

Project/Site. DRY CRECK RECAPTURE		City/County: BROW/	US VALLEY / YUGA Sampling Date: NOV 26, 2012
Applicant/Owner: BROWNS VALLEY TRAIGA			
			ange: 29, TIGN R 5 F BROWNS VALLEY
Landform (hillstope, terrace, etc.): Terrace			
			Long: -(21 43002 W Dalum: NAO 83
Soil Map Unit Name: ReddING - CORNING COM	elex 3	-8 % SLAPE	NWI classification: NONE
Are climatic / hydrologic conditions on the site typical for this		•	
Are Vegetation, Soil, or Hydrology sign			·
Are Vegelation, Soil, or Hydrology na			
SUMMARY OF FINDINGS - Attach site map s			·
SUMMARY OF FINDINGS - Attach site map's	nowing	sampling point i	ocations, transects, important features, etc.
Hydrophylic Vegetation Present? Yes No		is the Sample	d Area
Hydric Soil Present? Yes No	<u> </u>	within a Wetla	No.
Welland Hydrology Present? Yes X No			
Remarks:			
	•		
VEGETATION - Use scientific names of plants	5.		
	Absolute	Dominant Indicator	Dominance Test worksheet:
		Species? Status	Number of Dominant Species
1. <u>NONE</u>			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata:
4			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	 :	= Total Cover	That Are OBL, FACW, or FAC: 33% (A/B)
1 MNE			Prevalence Index worksheet:
2			Total % Cover of Multiply by
3		_	OBL species x 1 =
4			FACW species x 2 =
5.			FAC species x 3 =
J-		= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)			UPL species x 5 =
1. Lolium perenne	40%	YES FAC	Column Totals: (A) (B)
2 TRHOLIUM COMPESTAL	10%	YES you	r I
3 Bromus hordeaceus	10%	YES FACE	Prevalence Index = B/A =
4			Hydrophylic Vegetation Indicators:
5			Dominance Test is >50%
6			Prevalence Index is ≤3.0¹
7			Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation¹ (Explain)
	60 =	Total Cover	(explain)
Woody Vine Stratum (Plot size:)			Indicators of hydric soil and wetland hydrology must
1 NONE			be present, unless disturbed or problematic.
2		Total Cover	Hydrophytic
			Vegetation
% Bare Ground in Herb Stralum 46 % Cover of	Biotic Cru	sI	Present? Yes No _X
Remarks			

Profile Des	1 15 15 1L 1	. 46 46					41 11
	cription: (Describe to	o tne aeptn	needed to docum	ent the indic	cator or conf	inn the absence	of Indicators.)
Depth	Matrix (mater)			Features _	vpe Loc²	Texture	Domarka
(inches)	Color (molst)		Color (moist)				Remarks 4
0-6	10 YR 3/4	<u> 45</u> _	54R 4/6		<u>- </u>	<u>Sandy A</u> 	ODM BRIGHT /SMALL
Type: C=C	Concentration, D=Depte	elion, RM=R	educed Matrix, CS	=Covered or	Coated Sand	Grains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Histoso		DIO 10 DII EI	Sandy Redo				Muck (A9) (LRR C)
	pipedon (A2)		Stripped Ma				Muck (A10) (LRR B)
_	listic (A3)		Loamy Muci		1)		ced Vertic (F18)
_	en Sulfide (A4)		Loamy Gley	-			arent Material (TF2)
	d Layers (A5) (LRR C))	Depleted Ma		•	Other	(Explain in Remarks)
_	uck (A9) (LRR D)	•	Redox Dark	Surface (F6)			
Deplete	d Below Dark Surface	(A11)	Depleted Da	rk Surface (F	7)	_	
Thick D	ark Surface (A12)		Redox Depr	essions (F8)			of hydrophytic vegetation and
Sandy I	Mucky Mineral (S1)		Vernal Pools	(F9)			hydrology must be present,
_ Sandy (Gleyed Matrix (S4)					unless	disturbed or problematic.
estrictive	Layer (if present):						
Туре			_				
Depth (in	ches):		_			Hydric Sol	l Present? Yes No 🔀
						·	
/DROLO	GY	=					
etland Hy	drology Indicators:			_			
etland Hy		e required; (check all that apply			Seco	ndary Indicators (2 or more required)
etland Hy	drology Indicators:	e required; (heck all that apply				ndary Indicators (2 or more required) Valer Marks (B1) (Riverine)
rimary India	drology Indicators: cators (minimum of one Water (A1)	e required <u>:</u> c		B11)			
etland Hyrimary India Surface High Wa	drology Indicators: cators (minimum of one Water (A1) ater Table (A2)	e required <u>:</u> c	Salt Crust (B11) I (B12)	13)		Vater Marks (B1) (Riverine)
etland Hy imary India Surface High Wa Saturation	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3)		Salt Crust (Biotic Crust Aquatic Inv	B11) I (B12) ertebrates (B			Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
rimary Indic Surface High Wa Saturatio Water M	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) tarks (B1) (NonriverIn	e)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S	B11) (B12) ertebrates (B Sulfide Odor (C1)		Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patlems (B10)
rimary India Surface High Wa Saturatia Water M Sedimer	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (NonriverIn nt Deposits (B2) (Nonr	ie) riverine)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized R	B11) (B12) ertebrates (B Suffide Odor (hizospheres (C1) along Living I	\ S C Rools (C3) C	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Pattems (B10) Ory-Season Water Table (C2)
/etland Hy rimary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicators: cators (minimum of one Water (A1) ster Table (A2) on (A3) tarks (B1) (NonriverIn on Deposits (B2) (Nonriverin	ie) riverine)	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R	B11) I (B12) ertebrates (B Sulfide Odor (hizospheres I I Reduced Iro	C1) along Living I on (C4)	\ S C Roots (C3) C	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8)
/etland Hyrimary India Surface High Wa Saturation Water M Sedimer Drift Deg	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (NonriverIn nl Deposits (B2) (Nonriverin cosits (B3) (Nonriverin Soil Cracks (B6)	ne) riverine) ne)	Salt Crust (Biotic Crust) Aquatic Inv Hydrogen S Oxidized R Presence o	B11) I (B12) ertebrates (B Sulfide Odor (hizospheres a I Reduced Ire I Reduction in	C1) along Living I on (C4)	V C C Roots (C3) C (C6) S	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (
Fetland Hyrimary India Surface High Water M Sedimer Drift Dep Surface Inundation	drology Indicators: cetors (minimum of one Water (A1) ater Table (A2) on (A3) tarks (B1) (NonriverIn nl Deposits (B2) (Nonriverin cosits (B3) (Nonriverin Soil Cracks (B6) on Visible on Aerial Im	ne) riverine) ne)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iror Thin Muck	B11) I (B12) I (B12) I (B16) I	C1) along Living I on (C4) n Tilled Soils	- V - S - C Roots (C3) - C - C (C6) - S	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (Shellow Aquitard (D3)
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Vetland Hyrimary India Surface High Water M Sedimer Drift Der Surface Inundation Water-S eld Observariace Water Table	drology Indicators: cetors (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriverin nl Deposits (B2) (Nonriverin Soil Cracks (B6) on Visible on Aerial Im tained Leaves (B9) vetions: er Present? Yes Present?	ne) riverine) nagery (B7)	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iror Thin Muck (Other (Expl	B11) I (B12) ertebrates (B Sulfide Odor (hizospheres in Reduced Iron Reduction in Surface (C7) Isin in Remarkhes):	C1) along Living I on (C4) n Tilled Soils ks)	V C Rools (C3) C (C6) S F	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hyrimary India Surface High Water Mater Mater Mater Mater Mater Mater Mater Mater Surface Inundation Water-Surface Water-Surface Water-Surface Water Table Surface Water Table	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriverin nl Deposits (B2) (Nonriverin Soil Cracks (B6) on Visible on Aerial Im tained Leaves (B9) vations: er Present? Yes resent? Yes	ne) riverine) nagery (B7)	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R Presence o Recent Iror Thin Muck (Other (Expl	B11) I (B12) ertebrates (B Sulfide Odor (hizospheres in Reduced Iron Reduction in Surface (C7) Isin in Remarkhes):	C1) along Living I on (C4) n Tilled Soils ks)	V C Rools (C3) C (C6) S F	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (Shellow Aquitard (D3)
Vetland Hyrimary India Surface High Was Saturatin Water M Sedimer Drift Der Surface Inundatin Water-S leld Observariace Water Vater Table	drology Indicators: cetors (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriverin nl Deposits (B2) (Nonriverin Soil Cracks (B6) on Visible on Aerial Im tained Leaves (B9) vetions: er Present? Yes Present?	sagery (B7) Sagery No Sagery No	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iron Thin Muck (Other (Expl	B11) I (B12) I	C1) along Living I on (C4) 1 Tilled Soils ks)	\\ \text{Cools (C3) \text{C}} \text{CC6) \text{S}} \text{C6} \text{C}	Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Vetland Hyrimary India Surface High Water M Sediment Drift Dep Surface Inundation Water-Seld Obsernurface Water Vater Table	drology Indicators: cators (minimum of one Water (A1) ater Table (A2) on (A3) larks (B1) (Nonriverin nt Deposits (B2) (Nonriverin cosits (B3) (Nonriverin Soil Cracks (B6) on Visible on Aerial Im tained Leaves (B9) vations: er Present? Yes resent? Yes	ne) ne) nagery (B7) s No s No s No auge, monit	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iron Thin Muck Other (Expl	B11) I (B12) ertebrates (B Sulfide Odor (hizospheres a I Reduced Ire I Reduction ir Surface (C7) Iain in Remar hes): hes): hes):	C1) along Living I on (C4) n Tilled Soils ks) wu us inspection		Valer Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (Shallow Aquitard (D3) FAC-Neutral Test (D5)

Project/Sile. DRY CRECK RECAPTURE City/County: BROWN	JS VALLEY / YULL Sampling Date: NOV 26, 2012
Applicant/Owner BROWNS VALLEY IRRIGATION DISTRICT	· · · ·
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	inge: 29, TIGN RSE BROWNS Valley
Landform (hillslope, terrace, etc.). Terrace Local relief (concave,	
Subregion (LRR): LRR-C Lat: 39.21747° N	
Soil Map Unit Name: Redding - CORNING COMPLEX 3-8 % 510	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _X No _	
Are Vegetation, Soil, or Hydrology significantly disturbed? No Are	•
Are Vegetation, Soil, or Hydrology naturally problematic? No (If no	
•	•
SUMMARY OF FINDINGS - Attach site map showing sampling point I	ocations, transects, important features, etc.
Hydrophylic Vegetation Present? Yes No _K Is the Sampled	а Агев
Hydric Soil Present? Yes No _X within a Wetlan	1 -
Wetland Hydrology Present? Yes No _X	
Remarks:	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator Tree Stratum (Plot size:)	Dominance Test worksheet:
1. NONE	Number of Dominant Species 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:) = Total Cover	That Are OBL, FACW, or FAC: (A/B)
1. NONE	Prevalence Index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x 2 =
5	FAC species x 3 =
Herb Stratum (Plot size: 5)	FACU species x 4 =
1 Bromus hondeaceus 45 yes FACU	UPL species x 5 ≈
2 Barrier Madestance see Ruhens 25 Will	Column Totals: (A) (B)
2. Bramus MADRITENSIS SEP, RUBENS 25 YES UPL	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5	Dominance Test is >50%
6	Prevalence Index is ≤3.0'
7	Morphological Adaptations' (Provide supporting
8	data in Remarks or on a separate sheet)
<u>90</u> = Tolal Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	¹Indicators of hydric soil and welland hydrology must
1	be present, unless disturbed or problematic.
2 = Total Cover	Hydrophylic
	Vegetation
% Bare Ground in Herb Stratum % Cover of Biotic Crust	Present? Yes No
Remarks:	

Profile Description: (Describe to the depth needed	to document the	indicator	or confir	n the absence of	Indicator	s.)	
DepthMatrix	Redox Featur	es					
<u> </u>	noist)%_			Texture		Remarks	
0-6" 104R3/4 98 54R	4/6 2		M	Sandy loa	4 6	bright/fe	/Sm
Type: C=Concentration, D=Depletion, RM=Reduced N	Matrix, CS=Cover	ed or Coste	ed Sand G	rains. ² Locatio	on: PL=P	ore Lining, M=	Matrix.
ydric Soil Indicators: (Applicable to all LRRs, unle	ess otherwise no	ited.)		Indicators for	Problem	atic Hydric S	oils³:
- , ,	ndy Redox (S5)			1 cm Muc		•	
	ipped Malrix (S6)			2 cm Muc		,	
	arny Mucky Miner			Reduced \		•	
,	arny Gleyed Matri	. ,		Red Parei Other (Ex		, ,	
	pleted Matrix (F3 dox Dark Surface	•		Officer (EX)	piaili iti rte	emarks)	
_	pleted Dark Surfa						
	dox Depressions			alndicators of h	nydrophyli	ic vegelation a	nd
Sandy Mucky Mineral (S1) Ver	mai Pools (F9)				welland hydrology must be present,		
				,	nolog, me		
Sandy Gleyed Matrix (S4)				unless distu		roblematic.	
						roblematic.	
Sandy Gleyed Matrix (S4)						roblematic.	
Sandy Gleyed Matrix (S4) estrictive Layer (if present):					rbed or pr	Yes	
Sandy Gleyed Mairix (S4) estrictive Layer (if present): Type: Depth (inches): ermarks:				unless distu	rbed or pr		
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): ermarks: DROLOGY etiand Hydrology Indicators:				unless distu	rbed or pr		1
Sandy Gleyed Mairix (S4) estrictive Layer (if present): Type: Depth (inches): ermarks:	hal apply)		-	Unless distu	esent?		No_ <u>X</u>
Sandy Gleyed Matrix (S4) estrictive Layer (If present): Type: Depth (inches): emarks: DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one required, check all to Surface Water (A1)	att Crust (B11)			Hydric Soll Pre	esent? Y Indicato	Yes	No <u>k</u>
Sandy Gleyed Malrix (S4) estrictive Layer (If present): Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required, check all to surface Water (A1) Saligh Water Table (A2) Bi	alt Crust (B11) olic Crust (B12)			Hydric Soll Pre Secondar Wate Sedin	esent? Y Indicato or Marks (Ement Depo	Yes	No <u></u>
Sandy Gleyed Malrix (S4) estrictive Layer (If present): Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required, check all to the second process of the second pr	all Crust (B11) olic Crust (B12) quallc invertebrat			Hydric Soli Pre Secondar Wate Sedift Drift	ry Indicato er Marks (Empel Deposits (Yes ers (2 or more in B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine)	No <u>k</u>
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required, check all t Surface Water (A1) Sa High Water Table (A2) Bi Saturation (A3) A0 Water Marks (B1) (Nonriverine) Hy	all Crust (B11) olic Crust (B12) quallc Invertebrat ydrogen Sulfide C	odor (C1)		Hydric Soli Pre Secondar Wate Sedir Drift I	esent? Y Indicato or Marks (Ement Depo	ors (2 or more in the second of the second o	No <u>k</u>
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): ernarks: DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one required, check all tSurface Water (A1)	all Crust (B11) otic Crust (B12) quallc Invertebrat ydrogen Sulfide C xidized Rhizosph	odor (C1) eres along	_	Hydric Soli Pre Secondar Wate Sedir Drift I Drain ots (C3) Dry-S	ry Indicato er Marks (Ement Deposits (Deposits	ers (2 or more in the second of the second o	No <u>k</u>
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one required, check all to surface Water (A1) Set	all Crust (B11) otic Crust (B12) quatic Invertebrat ydrogen Sulfide C kidized Rhizosph esence of Reduc	Odor (C1) eres along ed Iron (C4	1)	Hydric Soli Pre Secondar Wate Sedir Drift I Drain ots (C3) Dry-S Crayl	esent? Py Indicato or Marks (Ement Deposits (Deposits (ers (2 or more in the second of the second o	No <u>k</u> equired)
Sandy Gleyed Malrix (S4) estrictive Layer (if present): Type:	atl Crust (B11) olic Crust (B12) quatle Invertebrat ydrogen Sulfide C kidized Rhizosph resence of Reduce ecent Iron Reduce	Odor (C1) eres along sed Iron (C4 tion in Tilled	1)	Secondar Wate Sedir Drift Drain Ots (C3) Satur	ry Indicato er Marks (Ement Deposits (Deposits	Yes	No <u>k</u> equired)
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one required, check all the surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soit Cracks (B6) Inundation Visible on Aerial Imagery (B7) The	att Crust (B11) otic Crust (B12) quatic invertebrat ydrogen Sulfide C xidized Rhizosph esence of Reduct accent Iron Reduct in Muck Surface	Odor (C1) eres along sed Iron (C4 tion in Tilled (C7)	1)	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall	ry Indicato ry Marks (Ement Deposits (Dage Patte Season Walish Burrow ration Visilow Aquita	rs (2 or more in the second of	No <u>k</u>
Sandy Gleyed Matrix (S4) estrictive Layer (If present): Type: Depth (inches): emarks: DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one required, check all to Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	atl Crust (B11) olic Crust (B12) quatle Invertebrat ydrogen Sulfide C kidized Rhizosph resence of Reduce ecent Iron Reduce	Odor (C1) eres along sed Iron (C4 tion in Tilled (C7)	1)	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall	ry Indicato er Marks (Ement Deposits (Deposits	rs (2 or more in the second of	No <u>k</u>
Sandy Gleyed Malrix (S4) estrictive Layer (If present): Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required, check all to the same of th	att Crust (B11) otic Crust (B12) quattc Invertebrat ydrogen Sutfide C kidized Rhizosph esence of Reduce ecent Iron Reduct in Muck Surface ther (Explain in R	odor (C1) eres along ed Iron (C4 tion in Tilled (C7) emarks)	d Soils (Ce	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall	ry Indicato ry Marks (Ement Deposits (Dage Patte Season Walish Burrow ration Visilow Aquita	rs (2 or more in the second of	No <u>k</u> equired)
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: Depth (att Crust (B11) otic Crust (B12) quattc Invertebrat ydrogen Sutfide C kidized Rhizosph resence of Reduc- ecent Iron Reduction Muck Surface ther (Explain in Reduction	Odor (C1) eres along ed Iron (C4 lion in Tilled (C7) emarks)	d Soils (Ce	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall	ry Indicato ry Marks (Ement Deposits (Dage Patte Season Walish Burrow ration Visilow Aquita	rs (2 or more in the second of	No <u>k</u> equired)
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: Depth (att Crust (B11) otic Crust (B12) quattc Invertebrat ydrogen Sulfide C kidized Rhizosph esence of Reduce ecent Iron Reduct in Muck Surface ther (Explain in Republic (Explain in R	Odor (C1) eres along ed Iron (C4 tion in Tilled (C7) emarks)	i) d Soils (CC	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall FAC-	ry Indicato er Marks (Ement Deposits (mage Patte Season Wish Burrov ration Visil ow Aquita Neutral Te	Yes	No <u>k</u>
Sandy Gleyed Matrix (S4) estrictive Layer (if present): Type: Depth (inches): emarks: Depth (att Crust (B11) otic Crust (B12) quattc Invertebrat ydrogen Sulfide C kidized Rhizosph esence of Reduce ecent Iron Reduct in Muck Surface ther (Explain in Republic (Explain in R	Odor (C1) eres along ed Iron (C4 tion in Tilled (C7) emarks)	i) d Soils (CC	Secondar Wate Sedir Drain ots (C3) Dry-S Crayl Shall	ry Indicato er Marks (Ement Deposits (mage Patte Season Wish Burrov ration Visil ow Aquita Neutral Te	Yes	No <u>k</u> equired)

Project/Site. DRY CRECK RECAPTURE City/County: BROWN	S VALLEY / YULV. Sampling Date: Nov 26, 2012
Applicant/Owner: BROWNS VALLEY TRAIGATION DISTRICT	· · · · · · · · · · · · · · · · · · ·
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	
Landform (hillslope, terrace, etc.): TEPRACE Local relief (concave,	
Subregion (LRR): <u>LRR-C</u> Lat: <u>39.2/856° N</u>	
Soil Map Unit Name: Redding CORNING, 3-8 PERCENT STOPES	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	
Are Vegetation, Soil, or Hydrology significantly disturbed? ^ Are *	•
Are Vegetation, Soil, or Hydrology naturally distributives? No (If ne	
SUMMARY OF FINDINGS – Attach site map showing sampling point le	
Hydrophylic Vegelation Present? Yes No Is the Sampled	
le the Sampleu	
Wetland Hydrology Present? Yes No No Within a Wetlar	nd? Yes <u>×</u> No
Remarks:	
•	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	Number of Dominant Species /
1. NONE	That Are OBL, FACW, or FAC: (A)
2	Total Number of Dominant
4	Species Across All Strata: (B)
= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (a/B)
Sapting/Shrub Stratum (Plot size:)	
1. NONE	Prevalence Index worksheet:
2	
3	FACW species x 2 =
5.	FAC species x 3 =
= Total Cover	FACU species x 4 =
Herb Strelum (Plot size: 5	UPL species x 5 =
1. MyRiophyllum aquaticum 75% yes OBL	Column Totals: (A) (B)
2	Prevalence Index ≈ B/A ≈
3	Hydrophytic Vegetation Indicators:
5	Dominance Test is >50%
6	Prevalence Index is ≤3.01
7	Morphological Adaptations¹ (Provide supporting
8.	data in Remarks or on a separate sheet)
= Total Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)	¹ Indicators of hydric soil and welland hydrology must
1. NONE	be present, unless disturbed or problematic.
2 = Total Cover	Hydrophytic
	Vegetation
% Bare Ground in Herb Stratum % Cover of Biotic Crust	Present? Yes No
Remarks:	

Sampling Point:

Profile Description: (Describe to the dept	h needed to docum	nent the ind	licator or	confirm	the absence of	Indicators.)	
Depth Matrix	Redox	x Features			_		
(inches) Color (moist) %	Color (moist)	%	Type	Lo c ²	<u>Texture</u>		
0-20 2.5 YR 2.25/1 100					CLAY LOD	<u> </u>	
					•		
							
							
							
<u> </u>							
							
							
¹ Type: C=Concentration, D=Depletion, RM=				Sand Gra		on: PL=Pore Lining, M=1	
Hydric Soil Indicators: (Applicable to all L			.)			Problematic Hydric Sc	ills":
Hislosol (A1)	Sandy Redo					k (A9) (LRR C)	
Histic Epipedon (A2)	Stripped Ma	. ,	E43			k (A10) (LRR B) Vertic (F18)	
Black Histic (A3)	Loamy Muci		•			nt Material (TF2)	
Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C)	Depleted Ma		2)			plain in Remarks)	
1 cm Muck (A9) (LRR D)	Redox Dark		5)			pioni in itematica)	
Depleted Below Dark Surface (A11)	Depleted Da	•	•				
Thick Dark Surface (A12)	Redox Depr	essions (F8))		³ Indicators of h	nydrophytic vegetation ar	nd
Sandy Mucky Mineral (S1)	Vernal Pools	s (F9)				rology must be present.	
Sandy Gleyed Matrix (S4)					unless distu	rbed or problematic.	
Restrictive Layer (if present):							
Туре:							
Depth (inches):					Hydric Soli Pre	esent? Yes X	No
Remarks:							
HYDROLOGY						-	
Wetland Hydrology Indicators:							
Primary Indicators (minimum of one required:	check all that apply	r)			Secondar	y Indicators (2 or more re	equired)
Surface Water (A1)	Satt Crust (_			r Marks (B1) (Riverine)	
High Water Table (A2)	➤ Blotic Crus					ment Deposits (B2) (Rive	rine)
∑ Saturation (A3)	Aquatic Inv		B13)			Deposits (B3) (Riverine)	•
Waler Marks (B1) (Nonriverine)	Hydrogen S					age Patterns (B10)	
Sediment Deposits (B2) (Nonriverine)				ing Root	s (C3) Dry-S	Season Water Table (C2)	
Drift Deposits (B3) (Nonriverine)	Presence o					fish Burrows (C8)	
Surface Soil Cracks (B6)	Recent Iron			oils (C6)	Satur	ration Visible on Aerial Im	nagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)						ow Aquitard (D3)	• • • •
Water-Stained Leaves (89)	Other (Expl	lain in Rema	erks)		FAC-	Neutral Test (D5)	
Field Observations:			_				
	o 🔀 Depth (inc	hes):					
	Depth (inc						
Cottonian Present?	o Depth (inc	hes): ///		Wetla	nd Hydrology Pr	resent? Yes X	No
ODCHARS CADIIALY IDDUCT				1			
Describe Recorded Data (stream gauge, mon	itoring well, aerial p	hotos, previ	ous inspe	ctions), it	available		
Remarks							

Project/Site: DRY CRECK RECAPTURE	City/County: BR	OWNS VALLEY / YUGA Sampling Date: NOV 26, Z
Applicant/Owner: BROWNS VALLEY TRAIGH	LION DISTRICT	State: CA Sampling Point: 4
•		ip, Range: 29, TILN, RSE, BROWN VA
		cave, convex, none): NONC= Slope (%): 1-2
•		ULong: -121, 42939" WDatum: NAD 83
_		APCS NWI classification: NONLE
Are climatic / hydrologic conditions on the site typical for this	,	
• =		Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n		-
		int locations, transects, important features, etc.
Hydrophytic Vegetalion Present? Yes N	o_X	npled Area
Hydric Soil Present? Yes N	o × within a V	Vetland? Yes No
Wetland Hydrology Present? Yes N	o_ <u>×</u>	
Remarks:		
	•	
VEGETATION - Use scientific names of plant	ts.	
To Dead on Applications	Absolute Dominant Indio	
Tree Stratum (Plot size:) 1/J6NE	% Cover Species? Stat	Inditibel of Collisiant Species
2		/
3.		Total Number of Dominant 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)		
1. NONE		Total % Cover of: Multiply by:
3		ODI
4		
5		FAC species x 3 =
-	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5	EN UES EN	UPL species x 5 =
1. BROMUS hordeaceus 2 BROMUS MADRITONSIS SI RUDEN	70 455 110	Column Totals: (A) (B)
2 To C level CAN coster	5 NO UD	Prevalence Index = B/A =
3. Trifolium CAMPOSTRE 4. Plantago lanceolata	5 NO FAC	
5		Dominance Test is >50%
6.		Prevalence Index is ≤3.0¹
7		Morphological Adaptations' (Provide supporting
8		data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
	80 = Total Cover	Problematic Plyotophytic Vegetation (Explain)
Woody Vine Stratum (Plot size:)		¹Indicators of hydric soil and welland hydrology must
1. NONE		be present, unless disturbed or problematic.
	= Total Cover	Hydrophytlc
% Bare Ground in Herb Stratum 20 % Cover	of Biotic Crust	Vegetation Present? Yes No
	or Biotic Groot	res NO
Remarks		

-	-	٠	
~	rı	ı	
~	v	,	_

	./
Sampling Point:	7

Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5)	nce of indicators.)
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coaled Sand Grains. Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Siripped Matrix (S6) Black Histo (A3) Loamy Mucky Mineral (F1) Red Hydrogen Suffide (A4) Loamy Gleyed Matrix (F2) Fred Fre	Remarks
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Costed Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histic Epipedon (A2) Stripped Matrix (S8) Black Histic (A3) Loamy Mucky Mineral (F1) Re Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Re Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Re Stratified Layers (A5) (LRR C) Depleted Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (F3) Wernal Pools (F9) Wetland Hydrology Indicators: Type: Deplit (inches): Hydric S Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apph) Seaturation (A3) Water Table (A2) Salturation (A3) Water Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) Wetland Hydrology Research (P4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Wetland Hydrology Research (P4) Presence of Reduced Iron (C4) Surface Water Present? Yes No Depth (inches): Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	· look
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Histosol (A3) Histosol (A3) Black Histic (A3) Black Histic (A3) Hydrogen Suffice (A4) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type: Depth (inches): Pophl (inches): Semarks: YDROLOGY Wetland Hydrology Indicators: **Trimpary Indicators (minimum of one required check all that apphy) Semarks: **Presence of Reduced Inon (C4) Saturation (A3) Waler Marks (B1) (Nonriverine) Defit Deposits (B2) (Nonriverine) Dirit Deposits (B3) (Nonriverine) Dirit Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Lesves (B9) Depth (inches): Urface Water Present? Yes No Depth (inches): Wetland Hydrolos, if available: Wetland Present? Yes No Depth (inches): Wetland Hydrolos, if available: Wetland Hydroloss: Urface Water Present? Yes No Depth (inches): Wetland Hydrolos, if available: Wetland Hydroloss: Urface Water Present? Yes No Depth (inches): Wetland Hydrolos, if available: Wetland Hydroloss (Saturation Present)? Yes No Depth (inches): Wetland Hydroloss in available: Wetland Hydroloss (Saturation Present)? Yes No Depth (inches): Wetland Hydroloss in available: Wetland Hydroloss in available: Wetland Hydroloss (Saturation Present)? Yes No Depth (inches): Wetland Hydroloss in available: Wetland Hydroloss in available:	
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Sandy Redox (S5) I 1 cr. Histosol (A3) Hydrogen Suffide (A4) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Stratified Layers (A5) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Vernal Pools (F8) Wetland Hydrology Indicators: Type: Depth (inches): Pepth (inches): Stratified Layers (A2) Saturation (A3) Waler Marks (B1) (Nonriverine) Drift Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Depth (inches): Wetland Hydrolos: Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Depth (inches): Wetland Present? Wetland Present? Yes No Depth (inches): Wetland Present (Ps) Wetland Hydrolose in Revaluation in Remarks) Wetland Hydroloses: Wetland Hydroloses: Wetland Hydroloses: Urface Water Present? Yes No Depth (inches): Wetland Hydroloses in Revaluation in Remarks) Wetland Hydroloses: Urface Water Present? Yes No Depth (inches): Wetland Hydroloses in Sections), if available: Wetland Hydroloses in Sections), if available:	
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Sandy Redox (S5) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) Re Hydrogen Suffide (A4) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Depleted Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Vernal Pools (F8) Indicat Wettand Hydrology Indicators: Type: Depth (inches): Bemarks: ### OROLOGY Wettand Hydrology Indicators: ### Property Indicators (Indicators) ### Property Indicators	
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Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) Rebydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Rebydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Oth 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Loamy Gleyed Matrix (F3) Oth Thick Dark Surface (A12) Redox Depressions (F8) Indicat Sandy Gleyed Matrix (S4) Loamy Gleyed Matrix (F3) Vernal Pools (F9) Wetland Hydrology Indicators: Trimary Indicators (minimum of one required, check all that appty) Semarks: ### Applic S	lors for Problematic Hydric Soils ³ :
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Sandy Gleyed Matrix (S4) Restrictive Layer (If present): Type:	and hydrology must be present,
Type:	ss disturbed or problematic.
Popul (inches):	*
Vetland Hydrology Indicators: Intrinary Indicators (minimum of one required; check all that apply) See Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) leted Observations: urface Water Present? Yes No Depth (inches): aluration Present? Yes No Pepth (inches): aluration Present? Y	
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Water Marks (B1) (Nonriverine)	_ Sediment Deposits (B2) (Riverine)
Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) Peter Table Present? Yes No Depth (inches): Inundation Present? Inundation Visible on Aerial Imagery (B7) Inundation Present? Inundation Present? Yes No Depth (inches): Inundation Present? Inundation Present? Inundation Present? Inundation Present? Yes No Depth (inches): Inundation Present? Inundation Pre	_ Drift Deposits (B3) (Riverine)
Drift Deposits (B3) (NonrIverIne) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Other (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Depter (Explain in Remarks) Presence of Reduced Iron (C4) ### Presence of Reduced Iron (C4) ### Presence of Reduced Iron (C4) ### Present Iron Reduction in Tilled Soils (C6) ### Presence of Reduced Iron (C4) ### Present Iron Reduction in Tilled Soils (C6) ### Present Iron Reduction Iron Reduction in Tilled Soils (C6) ### Present Iron Reduction Iron Reduction in Tilled Soils (_ Drainage Patterns (B10)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) leid Observations:	_ Dry-Season Water Table (C2)
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	_ Craylish Burrows (C8)
Water-Stained Leaves (B9) Other (Explain in Remarks) Leid Observations: urface Water Present? Yes No Depth (inches): Jaturation Present? Yes No Depth (inches): under Table Present? Yes No Depth (i	Saturation Visible on Aerial Imagery (C9)
leid Observations: urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches): aluration Present? Yes No Depth (inches) Wetland Hydrol notudes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	_ Shallow Aquitard (D3)
urface Water Present? Yes No Depth (inches): /ater Table Present? Yes No Depth (inches): aturation Present? Yes No Depth (inches): wetland Hydrol includes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	_ FAC-Neutral Test (D5)
/ater Table Present? Yes No Depth (inches): aduration Present? Yes No Depth (inches) Wetland Hydrol ncludes capillary fringe) rescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
aturation Present? Yes No Depth (inches). Wetland Hydrol notudes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
ncludes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	logy Present? Yes No
emarks:	
EIIIBI 1/2	

US Army Corps of Engineers Arid West – Version 2.0

Project/Site! DRY CRECK RECAPTURE City/County: BROWN	JS VALLEY / YULA Sampling Date: NOV 26, 2012
Applicant/Owner: BROWNS VALLEY IRRIGATION DISTRICT	
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	inge: 28, TIGN, R 5E BROWNS VALLEY
Landform (hillslope, lerrace, etc.): terrace Local relief (concave,	convex, none): CONCAVE Slope (%): 1-2%
Subregion (LRR): <u>LRR-C</u> Lat: <u>39, 21903 N</u>	Long: -121, 4263/° W Dalum NED 83
Soil Map Unit Name: Redding - CORNING COMPLEX, 3-890 SLOPE	NWI classification: NONE
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	
Are Vegetation, Soil, or Hydrology significantly disturbed? NO Are	"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? No (If no	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sampled	1 4
Hydric Soil Present? Yes No Within a Wetlan	
Wetland Hydrology Present? Yes No	
Remarks:	
,	
VEGETATION - Use scientific names of plants.	
Absolute Dominant Indicator Tree Stratum (Plot size:)	Dominance Test worksheet:
Tree Stratum (Plot size:) % Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2)
3	Total Number of Dominant Species Across All Strata: (B)
4	
= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC. 33% (A/B)
Sapling/Shrub Stratum (Plot size:) 1. NOWE	Prevalence Index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x 1 =
4	FACW species x 2 =
5	FAC species x 3 =
= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5 1 BRANUS hardeaceus 40 YES FACU	UPL species x 5 =
1 Bromus hordeaceus 40 YES FRU 2 Bromus MAdritensis sep Rubens 10 YES UPL	Column Totals: (A) (B)
3 Cyperus eragrostis 5 yes FACW	Prevalence Index = B/A =
4 PUBUS AMENIACUS 2 NO FACU	Hydrophytic Vegetation Indicators:
5	Dominance Test is >50%
6	Prevalence Index is ≤3 0¹
7	Morphological Adaptations ¹ (Provide supporting
8	data in Remarks or on a separate sheet)
= Total Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)	¹Indicators of hydric soil and welland hydrology must
1. NONE	be present, unless disturbed or problematic.
2 = Total Cover	Hydrophytic
	Vegetation
% Bare Ground in Herb Stralum 40 % Cover of Biotic Crust	Present? Yes No
Remarks.	

	cription: (Describe t	the dep	th needed to docur	ment the i	ndicator	or confirm	n the absence of Indic	cators.)
Depth							_	
(inches)	Color (moist)	<u></u> %	Color (moist)	<u> </u>	Type'		Texture	Remarks
0-6	104R 3/6	<u> </u>	54 R 4/6		<u></u>	<u> </u>	Sandy loon	Few/ bright/sma
	oncentration, D=Deple					d Sand G		PL=Pore Lining, M=Matrix. blematic Hydric Soils ³ :
Histosol			Sandy Redo		•		1 cm Muck (A9	=
Histic E	pipedon (A2)		Stripped Ma	atrix (S6)			2 cm Muck (A1	0) (LRR B)
	Istic (A3)		Loamy Muc				Reduced Vertic	
	en Sulfide (A4)		Loamy Gley		(F2)		Red Parent Ma	•
_	d Layers (A5) (LRR C) Jck (A9) (LRR D)		Depleted Mark		E6)		Other (Explain	in Remarks)
_	d Below Dark Surface	(A11)	Depleted Da	•	•			
_	ark Surface (A12)	V 7	Redox Depr				3Indicators of hydro	phytic vegetation and
	lucky Mineral (S1)		Vernal Pool	s (F9)			wetland hydrolog	y must be present,
_ Sandy G	leyed Matrix (S4)				<u> </u>		uniess disturbed	or problematic.
	Layer (II present):							
Restrictive L Type:								\/
Type:	ches).					•	Hydric Soil Present	7 Yes No
Type: Depth (inc ternarks:	ches).						Hydric Soli Present	7 Yes No
Type: Depth (includermarks:	ches)						Hydric Soll Present	7 Yes No
Type:	GY Irology Indicators:	e required	check all that apph	0				? Yes No
Type: Depth (includer in a second seco	GY Irology Indicators:	e required					Secondary Ind	icators (2 pr more required)
Type: Depth (inc emarks: 'DROLOG 'etland Hyd rimary Indic Surface \	GY Irology Indicators:	e required	check all that apph Salt Crust ((B11)			Secondary Ind	
Type: Depth (inc emarks: 'DROLOG 'etland Hyd rimary Indic Surface \	GY Irology Indicators: ators (minimum of one Water (A1) ler Table (A2)	e required	Salt Crust	(B11) 1 (B12)	s (B13)		Secondary Ind Water Mai Sediment	icators (2 or more required) rks (B1) (Riverine)
Type:	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine	B)	Salt Crust (Biotic Crus Aquatic Inv Hydrogen S	(B11) 1 (B12) rertebrates Sulfide Od	or (C1)		Secondary Ind Water Mai Sediment Drift Depo Drainage I	icators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patlems (B10)
Type:	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonrivering I Deposits (B2) (Nonri	e) Iverine)	Salt Crust (Biolic Crus Aquatic Inv Hydrogen S Oxidized R	(B11) 1 (B12) rertebrates Sulfide Od hizospheri	or (C1) es along l		Secondary Ind Water Mai Sediment Drift Depo Drainage I	icators (2 pr more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patlems (B10) on Water Table (C2)
Type:	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonriverine osits (B3) (Nonriverine	e) Iverine)	Salt Crust (Biotic Crus Aquatic Inv Hydrogen S Oxidized RX Presence of	(B11) 1 (B12) vertebrates Sulfide Od hizospheri of Reduced	or (C1) es along l d Iron (C4)	Secondary Ind Water Mai Sediment Drift Depo Drainage I ols (C3) Crayfish B	icators (2 pr more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Pallems (B10) on Waler Table (C2) surrows (C8)
Type:	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonriverine osits (B3) (Nonriverine Soil Cracks (B6)	e) verine) e)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence co Recent Iror	(B11) I (B12) rertebrates Sulfide Od hizosphere of Reduced n Reduction	or (C1) es along t d Iron (C4 on in Tilled)	Secondary Ind Water Mai Sediment Drift Depo Drainage I St (C3) Dry-Seaso Crayfish B Saturation	icators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) urrows (C8) Visible on Aerial Imagery (C
Type:	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonri osits (B3) (Nonriverine Soil Cracks (B6) in Visible on Aerial Ima	e) verine) e)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iror Thin Muck	(B11) I (B12) reflebrates Sulfide Od hizospheriof Reduced n Reductio Surface (C	or (C1) es along to d Iron (C4 on in Tilled C7))	Secondary Ind Water Mai Sediment Drift Depo Drainage Ots (C3) Dry-Seaso Crayfish B Saturation Shallow A	ncators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Pattems (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Caputard (D3)
Type: Depth (inclemarks: /DROLOG /etland Hyd /e	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonriverine Soil Cracks (B6) in Visible on Aerial Imagined Leaves (B9)	e) verine) e)	Salt Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence co Recent Iror	(B11) I (B12) reflebrates Sulfide Od hizospheriof Reduced n Reductio Surface (C	or (C1) es along to d Iron (C4 on in Tilled C7))	Secondary Ind Water Mai Sediment Drift Depo Drainage I St (C3) Dry-Seaso Crayfish B Saturation	ncators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Pattems (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Caputard (D3)
Type: Depth (inclemarks: /DROLOG /etland Hyd rimary Indic_ Surface \(\) High Wat Saturatio Water Ma Sediment Drift Depo Surface S Inundatio Water-Stated Observ	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonri osits (B3) (Nonriverine Soil Cracks (B6) in Visible on Aerial Ima ained Leaves (B9) attons:	e) verine) ne) agery (87)	Salt Crust (Biolic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Thin Muck Other (Exp.	(B11) 1 (B12) rertebrates Sulfide Od hizosphere of Reducect n Reductio Surface (Clain in Rer	or (C1) es along to d fron (C4 en in Tilled C7) marks)) I Soils (C6	Secondary Ind Water Mai Sediment Drift Depo Drainage Ots (C3) Dry-Seaso Crayfish B Saturation Shallow A	ncators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Pattems (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Caputard (D3)
Type: Depth (inclemarks: /DROLOG /etland Hydrimary Indic Surface \(\) High Water Ma Sediment Drift Depty Surface \(\) Inundatio Water-StateId Observ	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonriverine Soil Cracks (B6) in Visible on Aerial Imagined Leaves (B9) ations: r Present? Yes	e) verine) ne) agery (87)	Salt Crust (Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Thin Muck Other (Exp	(B11) I (B12) Pertebrates Sulfide Od hizosphere of Reduced n Reductio Surface (Clain in Rer	or (C1) es along l d Iron (C4 on in Tilled C7) marks)) I Soils (C6	Secondary Ind Water Mai Sediment Drift Depo Drainage Ots (C3) Dry-Seaso Crayfish B Saturation Shallow A	icators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Pattems (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Csiquitard (D3)
Type: Depth (inclemarks: /DROLOG /etland Hyd rimary Indic Surface \(\) High Water Ma Sediment Drift Depty Surface \(\) Inundation Water-State eld Observ urface Water false Frable F	GY Irology Indicators: ators (minimum of one Water (A1) ter Table (A2) in (A3) arks (B1) (Nonriverine I Deposits (B2) (Nonriverine Soil Cracks (B6) in Visible on Aerial Imagined Leaves (B9) atlons: r Present? Yes Present? Yes	e) verine) ne) agery (B7) N	Salt Crust (Biolic Crust Aquatic Inv Hydrogen S Oxidized R Presence co Recent Iror Thin Muck Other (Exp	(B11) I (B12) rertebrates Sulfide Od hizospheri of Reduced n Reductio Surface (Clain in Ren thes):	or (C1) es along t d fron (C4 on in Tilleo C7) marks)) I Soils (C6	Secondary Ind Water Mai Sediment Drift Depo Drainage I Ots (C3) Dry-Seaso Crayfish B Saturation Shallow A FAC-Neuti	icators (2 pr more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Csquitard (D3) ral Test (D5)
Type:	GY Irology Indicators: ators (minimum of one Water (A1) Ier Table (A2) In (A3) It Deposits (B2) (Nonriverind I Deposits (B3) (Nonriverind Soil Cracks (B6) In Visible on Aerial Imagined Leaves (B9) In Irological Imagined Leaves (B9) Irology Indicators: Irology Indicato	e) verine) e) agery (87) 	Salt Crust (Biotic Crust (Aquatic Inv Hydrogen S Oxidized R Presence of Recent Iror Thin Muck Other (Exp	(B11) I (B12) rertebrates Sulfide Od hizospherio I Reducet In Reductio Surface (Clain in Rer thes): thes):	or (C1) es along t d Iron (C4 on in Tilleo C7) marks)) I Soils (C6	Secondary Ind Water Mai Sediment Drift Depo Drainage I Ots (C3) Dry-Seaso Crayfish B Saturation Shallow Av FAC-Neuti	icators (2 or more required) rks (B1) (Riverine) Deposits (B2) (Riverine) sits (B3) (Riverine) Patterns (B10) on Water Table (C2) ourrows (C8) Visible on Aerial Imagery (Cs quitard (D3) ral Test (D5)

Project/Site. DRY CRECK RECAPTURE City/County: BROWN	JS VALLEY / YUGA Sampling Date: Nov 26, 2012
Applicant/Owner: BROWNS VALLEY TRAIGATION DISTRICT	· · · · · · · · · · · · · · · · · · ·
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	inge: 28 TIGN, R 5 E BROWNS VALLEY
Landform (hillslope, terrace, etc.): terrace Local relief (concave,	
Subregion (LRR): <u>LRR-C</u> Lat: 39, 2/909°N	
Soil Map Unit Name: Redding - CORNING COMPLEX, 3-8% SI	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _	<i>-</i>
Are Vegetation, Soil, or Hydrology significantly disturbed? Are	•
Are Vegetation, Soil, or Hydrology naturally problematic? NO (If no	• -
	,
SUMMARY OF FINDINGS - Attach site map showing sampling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No le the Sampleo	i Area
Hydric Soil Present? Yes No within a Wetlet	<u>~</u>
Wetland Hydrology Present? Yes No	
Remarks:	
VEGETATION – Use scientific names of plants.	
Tree Stratum (Plot size:) Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet:
1. NONE	Number of Dominant Species 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:) = Total Cover	That Are OBL, FACW, or FAC. (A/B)
1. NONE	Prevalence Index worksheet:
2	Total % Cover of: Multiply by:
3	OBL species x 1 =
41	FACW species x 2 =
5	FAC species x 3 =
Herb Stratum (Plot size: 5)	FACU species x 4 =
1 3 and 6 horder cans 40 Was FACU	UPL species x 5 =
2 Branus Madritensis sep rubens 25 400 UPL	Column Totals (A) (B)
3. HORDOUM MURINUM SEP. leporinum 25 YES UPL	Prevalence Index = B/A =
4	Hydrophytic Vegetation Indicators:
5	Dominance Test is >50%
6	Prevalence Index is ≤3.0 ³
7	Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8	Problematic Hydrophytic Vegelation¹ (Explain)
$\frac{90}{} = \text{Total Cover}$	robinitie riyarophytic vegetation (Explain)
Woody Vine Stratum (Plot size:)	Indicators of hydric soil and welland hydrology must
2	be present, unless disturbed or problematic.
= Total Cover	Hydrophytic
% Bare Ground in Herb Stratum	Vegetation Present? Yes No
	162 NO
Remarks	

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~ ()	r	
-		_

		6
Sampling F	oint: _	1

Profile Description: (Describe to the depth needed to document the indicate	for or confirm the absence of indicators.)
Depth Matrix Redox Features	
	e ¹ Loc ² Texture Remarks
0-6" 10 4R 3/6 100	
'	
<u></u>	
¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Co	
Hydric Soit Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	_
Thick Dark Surface (A12) Redox Depressions (F8)	Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present, unless disturbed or problematic.
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):	britada distributa or problematic.
Type:	Hydric Soll Present? Yes No
Depth (inches):	Hydric Confriescitic 165 No 7
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all (hat apply)	Secondary Indicators (2 or more required)
	Water Marks (B1) (Riverine)
	Sediment Deposits (B2) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1	
	ng Living Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (NonriverIne) Presence of Reduced Iron	
Surface Soil Cracks (B6) Recent Iron Reduction in T	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9) Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	inspections), if available.
Remarks	

Project/Site. DRY CRECK RECAPTURE City/County: BROWN	US VALLEY / YULL Sampling Date: NOV 26, ZO12
Applicant/Owner: BROWNS VALLEY IRRIGATION DISTRICT	· · ·
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	
Landform (hillstope, terrace, etc.): Terrace Local relief (concave,	
Subregion (LRR): LRR-C Lat: 39.22056° N	
Soil Map Unit Name: Redding-CORNING COMPLEX, 3-8% STORE	
Are chimatic / hydrologic conditions on the site typical for this time of year? Yes X No_	
•	
Are Vegetation, Soil, or Hydrology significantly disturbed? Note Are	
Are Vegetation, Soil, or Hydrology naturally problematic? ADD (If no	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No le the Samples	
is the Samplet	nd? Yes No
Wetland Hydrology Present? YesX No	nor res No
Remarks:	
1	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:) % Cover Species? Status	Number of Dominant Species
1. NONE	That Are OBL, FACW, or FAC: 2 (A)
2	Total Number of Dominant
4.	Species Across All Strata: (B)
= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)
Sapling/Shrub Stratum (Plot size:)	That Are OBL, FACTV, OF FAC(A/B)
1 NONI=	Prevalence Index worksheet:
2	Total % Cover of Multiply by.
3	OBL species x 1 =
4	FACW species x 2 = FAC species x 3 =
5 = Total Cover	FACU species x 4 =
Link Clerkum /Blot size:	UPL species x 5 =
1. TUNCUS balticus 20 YES OBL	Column Totals: (A) (B)
2 MONTHO ORVENSIS 20 475 FACW	
3 BROMUS horeageus 20 YES FACL 4 BROMUS diandus 20 YES VPL	Prevalence Index = B/A =
	Hydrophylic Vegetation Indicators:
5	Dominance Test is >50% Prevalence Index is ≤3.0¹
6	Morphological Adaptations¹ (Provide supporting
7	data in Remarks or on a separate sheet)
8	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)	
1 NONL	Indicators of hydric soil and welland hydrology must
2	be present, unless disturbed or problematic.
= Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust	Present? Yes No
Remarks	

	pth needed to document the indicator of	or confirm the absence of Indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type	Loc ² Texture Remarks
	54R4/4 10 C	M SANDY LOOK few/bright/SM
Type: C=Concentration, D=Depletion, RM	H=Reduced Matrix, CS=Covered or Coale	
Hydric Soll Indicators: (Applicable to al		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1)	2 cm Muck (A10) (LRR B) Reduced Verlic (F18)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleved Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	alndicators of hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Depressions (F8) Vernal Pools (F9)	welland hydrology must be present.
Sandy Mocky Minicial (61) Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
Carray Cicyan mana (C)		emand distance of problematic.
		distributed of problematic.
		and distance of problematic.
Restrictive Layer (if present):		Hydric Soil Present? Yes No
Restrictive Layer (if present): Type: Depth (inches): Remarks:		
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY		
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Velland Hydrology Indicators:		
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one require	d; check all (hat apply)	Hydric Soil Present? Yes No No No Secondary Indicators (2 or more required)
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:		Hydric Soil Present? Yes No
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1)	d; check all (hat apply) Salt Crust (B11)	Hydric Soil Present? Yes No
Type:	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Pestrictive Layer (if present): Type: Depth (inches): Permarks: YDROLOGY Yetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along t	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Dralnage Petterns (B10) Living Roots (C3) Dry-Season Water Table (C2)
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Yetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along to the condition (C4) ¥ Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Dralnage Pelterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Type:	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along to the condition (C4) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) I Soils (C6) Saturation Visible on Aerial Imagery (C9)
Pestrictive Layer (if present): Type: Depth (inches): Permarks: Permarks: Petland Hydrology Indicators: Permary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along the Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) I Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Pestrictive Layer (if present): Type: Depth (inches): Permarks: YOROLOGY Yetland Hydrology Indicators: rimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along to the condition (C4) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) I Soils (C6) Saturation Visible on Aerial Imagery (C9)
Restrictive Layer (if present): Type: Depth (inches): Remarks: YDROLOGY Velland Hydrology Indicators: Irimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along the Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Thin Muck Surface (C7)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Restrictive Layer (if present): Type: Depth (inches): Permarks: YDROLOGY Vetland Hydrology Indicators: Inimary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) ield Observations: urface Water Present? Yes	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along to the control of the cont	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Dralnage Patterns (B10) Living Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Restrictive Layer (if present): Type: Depth (inches): Permarks: Portion of the require of the requirement o	d: check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxldized Rhizospheres along to the context of Reduced Iron (C4) Recent Iron Reduction in Tilled (C7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): Depth (inches): Depth (inches):	Secondary Indicators (2 or more required)

Project/Site. DRY CRECK RECEPTURE City/County: BROWN	NS VALLEY / YULA Sampling Date: Nov 26, 2012
Applicant/Owner: BROWNS VALLEY TRAGATION DISTRICT	State. CA _ Sampling Point. 8
Investigator(s): M. BOLE, C. BOLE Section, Township, Ra	inge: 28 TIGN, RSE BROWNS VALLEY
Landform (hillslope, terrace, etc.): terrace Local relief (concave,	convex, none). None Slope (%): /- 2 %
Subregion (LRR): <u>LRR-C</u> Lat: <u>39, 22 6940 N</u>	
Soil Map Unit Name: Redding - CORNING COUPLES 3-8 % 510	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No_	
Are Vegetation, Soil, or Hydrology significantly disturbed? No Are	
Are Vegetation, Soil, or Hydrology naturally problematic? No (If no	
SUMMARY OF FINDINGS – Attach site map showing sampling point I	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No is the Sampleo	d Area
Hydric Soil Present? Yes No within a Weller	
Wetland Hydrology Present? Yes NoX	
Remarks:	
,	
VEGETATION - Use scientific names of plants.	
Absolute Dominant Indicator Tree Stratum (Plot size:)	Dominance Test worksheet:
1. NONE	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2	,— ,
3.	Total Number of Dominant 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)	Prevalence Index worksheet:
1. NONE	Total % Cover of: Multiply by:
3.	OBL species x 1 =
4.	FACW species x 2 =
5	FAC species x 3 =
= Total Cover	FACU species x 4 =
Herb Stralum (Plot size: 5	UPL species x 5 =
1 BRANUS HORDEACEUS 40 YES FACU	Column Totals: (A) (B)
2. D/0140) CIANALUS	Prevalence Index = B/A =
3 Hordeun hrachyantherun 15 yes upc	Hydrophytic Vegetation Indicators:
5	Dominance Test is >50%
6.	Prevalence Index is ≤3.0¹
7	Morphological Adaptations¹ (Provide supporting
B	data in Remarks or on a separate sheet)
85 = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	¹ Indicators of hydric soil and welland hydrology must
1. NON V	be present, unless disturbed or problematic
2 = Total Cover	Hydrophytic
1.5	Vegetation
% Bale Closes II Tions State.	Present? Yes No
Remarks:	

	17
Sampling Pol	nt:

Profile Descri	Matrix		Redo	x Features	<u> </u>	. 5	_	
(inches)	Color (moist)		color (moist)	<u> </u>	Type'	_Loc*	<u>Texture</u>	Remarks
0-6"	104R 4/5	100						
								_
-								
	_							
	centration, D=Deplet					d Sand Gr		ation: PL=Pore Lining, M=Matrix
tydric Soli in	dicators: (Applicab	le to all LRR	s, unless othe	rwise note	ed.)		Indicators f	or Problematic Hydric Soils ³ :
Histosol (A	\1)		Sandy Red					uck (A9) (LRR C)
Histic Epip			Stripped Ma	. ,				uck (A10) (LRR B)
Black Histi			Loamy Muc	•				d Verlic (F18)
	Sulfide (A4)	-	Loamy Gley		(F2)			rent Material (TF2)
	ayers (A5) (LRR C) (A9) (LRR D)	-	Depleted M Redox Dark		E6)		Other (E	Explain in Remarks)
	: (A9) (LKK D) Below Dark Surface (A11)	Redox Dan Depleted Da	- '	•			
	Surface (A12)	-	Redox Depi				3Indicators o	of hydrophytic vegetation and
_	cky Mineral (S1)	-	Vernal Pool		-,			ydrology must be present,
	yed Matrix (S4)	_	_	. ,				sturbed or problematic.
	yer (If present):				_		1	
lestrictive La								
								· · · · · · · · · · · · · · · · · · ·
Туре							Hydric Soll F	Present? Yes No
Type Depth (inche					_		Hydric Soll F	Present? YesNo
Type Depth (inche							Hydric Soll F	Present? Yes No
Type	es):					,	Hydric Soll F	Present? YesNo
Type	Y Slogy Indicators:			·				
Type	es):		ck all that apph	· · · · · · · · · · · · · · · · · · ·		,	Second	fary Indicators (2 or more required)
Type	Y plogy Indicators: ors (minimum of one		Salt Crust	(B11)			Second	fary Indicators (2 or more required) ater Marks (B1) (Riverine)
Type Depth (inche Remarks: YDROLOGY Vetland Hydro Primary Indicate Surface Water High Water	Y logy Indicators: ors (minimum of one ater (A1) Table (A2)		Salt Crust Biotic Crus	(B11) I (B12)			Second Wa	lary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
Type Depth (inches Remarks: YDROLOGY Vetland Hydro rimary Indicate Surface Wa High Water Saturation	Y Slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3)	required; che	Salt Crust Biotic Crus Aquatic Inv	(B11) :l (B12) verlebrates	, ,		Second Wa	fary Indicators (2 or more required) ater Marks (B1) (Riverine)
Type Depth (inche lemarks: YDROLOG' Vetland Hydrorimary Indicate Surface Water High Water Saturation	Y logy Indicators: ors (minimum of one ater (A1) Table (A2)	required; che	Salt Crust Biotic Crus	(B11) :l (B12) verlebrates	, ,		Second Wa Se Dri	lary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
Type	Y llogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A (B1) (Nonriverine deposits (B2)	required; che	Salt Crust Biotic Crus Aquatic Inv	(B11) it (B12) vertebrates Sulfide Od	or (C1)	Living Rool	Second Wa Se Dri Dra s (C3) Dry	dary Indicators (2 or more required) alter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) fi Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2)
Type	Y Slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) as (B1) (Nonriverine	required; che	Salt Crust Biotic Crust Aquatic Inv Hydrogen	(B11) it (B12) vertebrates Sulfide Od thizospher	or (C1) es along	_	Second Wa Se Dri Dri Cos Cos Cos	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) fl Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8)
Type	Y llogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A (B1) (Nonriverine deposits (B2)	required; che	Salt Crust Biotic Crust Aquatlc Inv Hydrogen	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced	or (C1) es along i Iron (C4)	Second Wa Se Dri Dra S (C3) S (C3) S (C3)	dary Indicators (2 or more required) aler Marks (B1) (Riverine) diment Deposits (B2) (Riverine) fi Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Type	y plogy Indicators: prs (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	required; che	Sall Crust Biotic Crust Aquatlc Inv Hydrogen Oxidized R Presence o	(B11) rertebrates Sulfide Od chizosphere of Reduced	or (C1) es along d Iron (C4 n in Tilled)	Second Wa Se Dri Dra S (C3) S (C3) S (C3)	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) fl Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8)
Type Depth (inche Remarks: YDROLOG' Yetland Hydro Yorimary Indicate Surface Wa High Water Saturation Water Mark Sediment C Drift Depos Surface So Inundation	y logy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A9) (A9) (A9) (A9) (A9) (A9) (A9) (A9	required; che	Salt Crust Biotic Crust Aquatlc Inv Hydrogen Oxidized R Presence o	(B11) vertebrates Sulfide Od chizosphero f Reduced n Reduction Surface (C	or (C1) es along d Iron (C4 n in Tilled (7))	Second Wa Se Dri Dra S (C3) Cra Sa Sh	dary Indicators (2 or more required) aler Marks (B1) (Riverine) diment Deposits (B2) (Riverine) fi Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Type	y logy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	required; che	Salt Crust Biotic Crust Aquatle Int Hydrogen Oxidized R Presence of Recent Iron Thin Muck	(B11) vertebrates Sulfide Od chizosphero f Reduced n Reduction Surface (C	or (C1) es along d Iron (C4 n in Tilled (7))	Second Wa Se Dri Dra S (C3) Cra Sa Sh	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3)
Type	y logy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (S (B1) (Nonriverine Deposits (B2) (Nonriverine B1) (Nonriverine B2) (Nonriverine B2) (Nonriverine B2) (Nonriverine B2) (Nonriverine B3) (Nonriverine B4) (Nonriv	required; che) verine) e) gery (B7)	Salt Crust Biotic Crust Aquatle Int Hydrogen Oxidized R Presence of Recent Iron Thin Muck	(B11) If (B12) Vertebrates Suffide Od Chizosphere of Reduced In Reduction Surface (Collain in Rer	or (C1) es along if Iron (C4 in in Tilleo C7) narks)) I Soils (C6)	Second Wa Se Dri Dra S (C3) Cra Sa Sh	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3)
Type Depth (inche Remarks: YDROLOG' Yetland Hydro Yimary Indicate Surface Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair Ietd Observat	y viogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	required; che) verine) e) gery (B7)	Salt Crust Biotic Crust Aquatle Int Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Pertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Collain in Rer Ches):	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6)	Second Wa Se Dri Dra S (C3) Cra Sa Sh	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3)
Type Depth (inche Remarks: YDROLOG' Vetland Hydro Vetland Hydro Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair ield Observat vurface Water F	y logy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	required; che verine) gery (B7) No X	Salt Crust Biotic Crust Aquatle Int Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Ivertebrates Sulfide Od Chizosphero Of Reduced In Reduction Surface (Colain in Rer Iches):	or (C1) es along d Iron (C4 in in Tilled (C7) narks)) I Soils (C6)	Second Wa Se Dri Dra S (C3) Dry Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)
Type	y slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) ss (B1) (Nonriverine Deposits (B2) (Nonriverine B) Cracks (B6) Visible on Aerial Imaled Leaves (B9) ions: Present? Present? Yes ent? Yes ent? Yes ent? Yes	required; che) verine) a) gery (B7) No	Salt Crust Biotic Crust Aquatle Ind Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Clain in Rer Ches): Lines): Lines): Lines): Lines): Lines	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6) — — — Wetla	Second Wa Se Dri Dra S (C3) Cra Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3)
Type	y logy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	required; che) verine) a) gery (B7) No	Salt Crust Biotic Crust Aquatle Ind Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Collain in Rer Inches): Ches):	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6) — — — Wetla	Second Wa Se Dri Dra S (C3) Cra Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)
Type Depth (inche Remarks: YDROLOGY Wetland Hydro Primary Indicate Surface Water Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair Field Observat Surface Water F Vater Table Presenctudes capillates Describe Record	y slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) ss (B1) (Nonriverine Deposits (B2) (Nonriverine B) Cracks (B6) Visible on Aerial Imaled Leaves (B9) ions: Present? Present? Yes ent? Yes ent? Yes ent? Yes	required; che) verine) a) gery (B7) No	Salt Crust Biotic Crust Aquatle Ind Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Collain in Rer Inches): Ches):	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6) — — — Wetla	Second Wa Se Dri Dra S (C3) Cra Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)
Type	y slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) ss (B1) (Nonriverine Deposits (B2) (Nonriverine B) Cracks (B6) Visible on Aerial Imaled Leaves (B9) ions: Present? Present? Yes ent? Yes ent? Yes ent? Yes	required; che) verine) a) gery (B7) No	Salt Crust Biotic Crust Aquatle Ind Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Collain in Rer Inches): Ches):	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6) — — — Wetla	Second Wa Se Dri Dra S (C3) Cra Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)
Type Depth (inche Remarks: YDROLOGY Wetland Hydro Primary Indicate Surface Water Saturation Water Mark Sediment D Drift Depos Surface So Inundation Water-Stair Water-Stair Water Table Presenctudes capillates cribe Recore	y slogy Indicators: ors (minimum of one ater (A1) Table (A2) (A3) ss (B1) (Nonriverine Deposits (B2) (Nonriverine B) Cracks (B6) Visible on Aerial Imaled Leaves (B9) ions: Present? Present? Yes ent? Yes ent? Yes ent? Yes	required; che) verine) a) gery (B7) No	Salt Crust Biotic Crust Aquatle Ind Hydrogen Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) If (B12) Vertebrates Suffide Od Chizospher of Reduced In Reduction Surface (Collain in Rer Inches): Ches):	or (C1) es along d Iron (C4 n in Tilled C7) narks)) I Soils (C6) — — — Wetla	Second Wa Se Dri Dra S (C3) Cra Sa Sh FA	dary Indicators (2 or more required) ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)

Project/Site: DRY CRECK RECAPTURE	City/C	ounty: BROWA	JS VALLEY / YUGA Sampling Date: NOV 26, 2013
Applicant/Owner: BROWNS VALLEY TRRIGA-	TION DIS	TRICT	State. CA Sampling Point: 9
			inge: 22, TIBN, R5E, BROWNSVAILE.
Landform (hillslope, terrace, etc.): TEPRACE	Local	relief (concave.	convex, none): CONCAVE Slope (%): 1 to 2 %
Subregion (LRR): LRR-C			
Soil Map Unit Name: Redding - Consing comple			
Are climatic / hydrologic conditions on the site typical for this ti	ime of year? Y	esx_ No_	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sign	nificantly disturt	oed? Nø Are	"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology nat			——————————————————————————————————————
SUMMARY OF FINDINGS - Attach site map sh			•
Hydrophytic Vegetation Present? Yes X No			
Hydric Soil Present? Yes X No		is the Sampled	
Wetland Hydrology Present? Yes No		Within a Wetiai	nd? Yes No
DATA POINT TAKEN WITHIN SEC	asonial c	Weet (UNNAMED).
	1		
VECETATION Lies especific names of plants			·
VEGETATION – Use scientific names of plants		and Indicate	
	Absolute Dom 6 Cover Spec	inant Indicator ies? Status	Dominance Test worksheet: Number of Dominant Species
1. No m=			That Are OBL, FACW, or FAC:(A)
2			Total Number of Dominant
3			Species Across All Strata:(B)
4			,,
	= Tola	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size)			
1. NONE			Prevalence Index worksheet:
2			
4			FACW species x 2 =
5			FAC species x 3 =
	= Tola	d Cover	FACU species x4 =
Herh Stratum (Plot size: 5)			UPL species x 5 =
1. Rubus ARMENIACUS	40 JES	FACUL	Column Tolels: (A) (B)
2 Plantago Major	40 YE.	S FAC	
3			Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators:
5			Dominance Test is >50%
6		<u> </u>	Prevalence Index is ≤3.0¹
7			Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8,1	<u> </u>		Problematic Hydrophytic Vegetation¹ (Explain)
	<i></i> = Tota	l Cover	vesicinate riyaraphytic vegetation (Explain)
Woody Vine Stratum (Plot size:) 1. ADNE			Indicators of hydric soil and welland hydrology must
			be present, unless disturbed or problematic.
2	= Tota	I Cover	Hydrophytic
_			Vegetation
% Bare Ground in Herb Stratum 20 % Cover of	Biotic Crust		Present? Yes No
Remarks			

Tome Description. (Describe to the de	pth needed to document the indicato	r or confirm t	he absence	of Indicator	rs.)
Depth Matrix	Redox Features	2			
(inches) Color (moist) %	Color (moist) % Type				Remarks
No data point TAKEN	IN UNNAMED SCAS	ON CRE	ek, w	MTER	present
					<u> </u>
					<u></u>
					<u> </u>
	· 				
Type: C=Concentration, D=Depletion, RM		ited Sand Grai			Pore Lining, M=Matrix
lydric Soil Indicators: (Applicable to al					natic Hydric Soils ¹ :
Histosol (A1) Histic Epipedon (A2)	Sandy Redox (S5) Stripped Matrix (S6)			luck (A9) (Li luck (A10) (I	•
Black Histic (A3)	Simpled Matrix (So) Loamy Mucky Mineral (F1)			ed Vertic (F1	•
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)			rent Materia	
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)			Explain in R	-
_ 1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)				
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		3 _{1-diantoro}	المراجع والمراجع الأم	
_ Thick Dark Surface (A12) _ Sandy Mucky Mineral (S1)	Redox Depressions (F8) Vernal Pools (F9)				lic vegetation and
Sandy Mucky Milleral (51) Sandy Gleyed Malrix (S4)	Veillai Food (1 0)		welland hydrology must be present, unless disturbed or problematic.		
estrictive Layer (if present):					
Restrictive Layer (if present): Type Depth (inches):			Hydric Soil I	Present?	Yes No
Type Depth (inches):			Hydric Soil I	Present?	Yes No _
Type: Depth (inches):			Hydric Soil I	Present?	Yes No
Type: Depth (inches):			Hydric Soil I	Present?	Yes No
Type Depth (inches):			Hydric Soil I	Present?	Yes No
Type:			Hydric Soil I	Present?	Yes No
Type Depth (inches): emarks: 'DROLOGY			Hydric Soil I	Present?	Yes No
Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators:					
Type: Depth (inches): emarks: DROLOGY Setland Hydrology Indicators: Simply Indicators (minimum of one require	d; check all that apply)		Secong	dary Indicate	ors (2 or more required
Type:	d; check all that apply) Salt Crust (B11)		Second Wi	dary Indicati ater Marks (ors (2 or more required B1) (Riverine)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12)		Secong Wa Se	dary Indicate ater Marks (diment Dep	ors (2 or more required B1) (Riverine) losits (B2) (Riverine)
Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3)	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)		Secong Wa Se Dri	dary Indicate ater Marks (diment Dep ift Deposits	ors (2 or more required B1) (Riverine) losits (B2) (Riverine) (B3) (Riverine)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		<u>Secong</u> Wa Se Dri Dri	dary Indicate ater Marks (idiment Dep ift Deposits ainage Patte	prs (2 or more required B1) (Riverine) posits (B2) (Riverine) (B3) (Riverine) erns (B10)
Type:	d; check all (hat apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along		Secong Wa Se Dra Dra (C3) Dra	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W	ors (2 or more required B1) (Riverine) ossits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Cxidized Rhizospheres along	24)	Second Will Se Dri (C3) Cri	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro	ors (2 or more required B1) (Riverine) ossits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ws (C8)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	24)	Second With Second Driver (C3) Driver Critical Second	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ws (C8) ible on Aerial Imagery
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C1) Recent Iron Reduction in Till 7) Thin Muck Surface (C7)	24)	Second With the second of the	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3)
Type	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C	24)	Second With the second of the	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (C1) Recent Iron Reduction in Till 7) Thin Muck Surface (C7) Other (Explain in Remarks)	c4) ed Soils (C6)	Second With the second of the	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3)
Type	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Care Recent Iron Reduction in Till Thin Muck Surface (C7) Other (Explain in Remarks)	c4) ed Soils (C6)	Second With the second of the	dary Indicate ater Marks (diment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3)
Type	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (Care Recent Iron Reduction in Till Thin Muck Surface (C7) Other (Explain in Remarks) No 5" Depth (inches):	c4) ed Soils (C6)	Second Widelight Second Driver Driver (C3) Driver Critical Samuel Sh	dary Indicate ater Marks (idiment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita C-Neutral T	ors (2 or more required B1) (Riverine) ossits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3) fest (D5)
Type	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Care Recent Iron Reduction in Till Thin Muck Surface (C7) Other (Explain in Remarks)	c4) ed Soils (C6)	Second Widelight Second Driver Driver (C3) Driver Critical Samuel Sh	dary Indicate ater Marks (idiment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita C-Neutral T	ors (2 or more required B1) (Riverine) osits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3)
Type:	d; check all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres alone Presence of Reduced Iron (Care Recent Iron Reduction in Till Thin Muck Surface (C7) Other (Explain in Remarks) No 51 Depth (inches): No Depth (inches):	C4) ed Soils (C6) Wetlan	Second Wa	dary Indicate ater Marks (idiment Dep ift Deposits ainage Patte y-Season W ayfish Burro turation Visi allow Aquita C-Neutral T	ors (2 or more required B1) (Riverine) ossits (B2) (Riverine) (B3) (Riverine) erns (B10) /aler Table (C2) ows (C8) ible on Aerial Imagery ard (D3) fest (D5)

Project/Site. DRY CRECK RECAPTURE	City/County: BROW/	NS VALLEY / YULA Sampling Date: Nov 26, 2012
Applicant/Owner: BROWNS VALLEY IRRIGA	TION DISTRICT	State: Sampling Point:
Investigator(s): M. BOLE, C. BOLE		
		convex, none) CONCAVE Slope (%): /-2 %
		Long: -121, 40417° W Datum: N40 83
Soil Map Unit Name: Redding 9RAV=114 loa		
Are climatic / hydrologic conditions on the site typical for this	time of year? YesX_ No_	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sl	gnificantly disturbed? NØ Are	"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na		
SUMMARY OF FINDINGS - Attach site map s	howing sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	le the Cample	d Area
Hydric Soil Present? Yes X No	ls the Sample	ind? Yes X No
Wetland Hydrology Present? Yes No	Within a *******	168 / NO
Remarks:		
	•	
VEGETATION – Use scientific names of plants		
		Dominance Test worksheet:
	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Designation
1. NONE		That Are OBL, FACW, or FAC: (A)
2		T-(-) No-th(P)
3		Species Across All Strata: (B)
4		Percent of Dominant Species
ContractCharth Stretum (Diplorize)	= Total Cover	That Are OBL, FACW, or FAC: 50 (A/B)
Sapling/Shrub Stratum (Plot size:) 1)		Prevalence index worksheet:
2		Total % Cover of: Multiply by:
3		OBL species x 1 =
4.		FACW species x 2 =
5		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: 5	1/. 1/- CACI	UPL species x 5 =
1 RUBUS ARMENIACUS	TO YES FACE	Column Totals: (A) (B)
	20 YES FAC	
3		Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
4)		Dominance Test is >50%
5		Prevalence Index is ≤3.0¹
6		Morphological Adaptations¹ (Provide supporting
8		data in Remarks or on a separate sheet)
	60 = Total Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)		Indicators of hydric soil and welland hydrology must
1 _ ^\0^\0		be present, unless disturbed or problematic.
2	= Total Cover	Hydrophytic
V. Dave Count in Herb Stratum 40 % Cover o		Vegetation
% Bare Ground in Herb Stratum 70 % Cover o	f Biolic Crust	Present? Yes X No
Remarks		

Total Description: (Des	cribe to the depth ne	eded to document the indicator or (confirm the absence of indicate	ors.)
Depth Mainches) Color (mo	alrix ist) % C	Redox Features olor (moist) % Type ¹ I	.oc² Texture	Remarks
		MED SERSONAL CHE		
VU DRIA IN	1 01-14	<u> </u>	1000	2.301
				
				
			<u> </u>	
vpe: C=Concentration, D)=Depletion, RM=Red	uced Matrix, CS≂Covered or Coated S	and Grains. ² Location: PL=	Pore Lining, M=Matrix.
		s, unless otherwise noted.)	Indicators for Proble	
_ Histosol (A1)	_	Sandy Redox (S5)	1 cm Muck (A9) (I	
Histic Epipedon (A2)	_	Stripped Matrix (S6)	2 cm Muck (A10)	
Black Histic (A3)	-	Loamy Mucky Mineral (F1)	Reduced Vertic (F	•
Hydrogen Sulfide (A4)	- LDD 6/	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Red Parent Mater Other (Explain in	` '
Stratified Layers (A5) (1 cm Muck (A9) (LRR		Redox Dark Surface (F6)	Other (Explain in	rtelliaiks)
Depleted Below Dark S	-	Depleted Dark Surface (F7)		
Thick Dark Surface (A1	_	Redox Depressions (F8)	alndicators of hydrophy	ylic vegetation and
Sandy Mucky Mineral (S1) _	_ Vernal Pools (F9)	wetland hydrology r	
	S4)		unless disturbed or	problematic
Sandy Gleyed Matrix (<u> </u>		problement.
estrictive Layer (if prese Type: Depth (inches):			Hydric Soll Present?	Yes No
strictive Layer (if prese Type: Depth (inches): marks:				
strictive Layer (if prese Type: Depth (inches): marks:	ent):			
strictive Layer (if prese Type: Depth (inches): marks: DROLOGY tland Hydrology Indica	tors:		Hydric Soll Present?	Yes No
strictive Layer (if prese Type: Depth (inches): The prese DROLOGY Tand Hydrology Indica	tors:		Hydric Soll Present? Secondary Indica	Yes No
strictive Layer (if prese Type: Depth (inches): Depth (society): DROLOGY tland Hydrology Indicators (minimur Surface Water (A1)	tors:	Salt Crust (B11)	Hydric Soll Present? Secondary Indica Water Marks	Yes No
strictive Layer (if present the present th	tors:	Salt Crust (B11) Blotic Crust (B12)	Hydric Soll Present? Secondary Indica Water Marks Sediment De	Yes No
strictive Layer (if prese Type: Depth (inches): Type:	nt): itors: n of one required; che	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13)	Hydric Soli Present? Secondary Indica Water Marks Sediment De Drift Deposits	Yes No
strictive Layer (if prese Type: Depth (inches): The prese DROLOGY Itand Hydrology Indication Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Non	nt): ntors: n of one required; che	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indica — Water Marks — Sediment De — Drift Deposits — Drainage Pat	Ves No
strictive Layer (if prese Type: Depth (inches): The prese DROLOGY Itland Hydrology Indica The prese Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Non- Sediment Deposits (B2)	nt): ntors: n of one required; che	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi	Secondary Indica Water Marks Sediment De Drift Deposits Drainage Pat	Yes No No
strictive Layer (if prese Type: Depth (inches): The control of the	nt): tors: n of one required; che riverine)) (Nonriverine)	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4)	Secondary Indica Water Marks Sediment De Drift Deposits Drainage Pat Tory-Season V Crayfish Burn	Yes No
strictive Layer (if prese Type: Depth (inches): marks: DROLOGY Itland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Non Sediment Deposits (B2) Drift Deposits (B3) (Not Surface Soil Cracks (B6)	nt): tors: n of one required; che riverine)) (Nonriverine) nriverine)	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Sc	Secondary Indica Water Marks Sediment De Drift Deposits Drainage Pat ng Roots (C3) Crayfish Burr Sils (C6) Saturation Vi	Yes NoNo
strictive Layer (if present Type: Type: Depth (inches): Type: Ty	nt): tors: n of one required; che riverine)) (Nonriverine) nriverine) si) erial Imagery (B7)	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So	Secondary Indica Water Marks Sediment De Drift Deposits Drainage Pat ng Roots (C3) Crayfish Burr Sits (C6) Shallow Aqui	Ves NoNo
strictive Layer (if present type: Depth (inches): DROLOGY Itland Hydrology Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Non Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Act Water-Stained Leaves (B6)	riverine) (Nonriverine) (Nonriverine) (S) erial Imagery (B7)	Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Livi Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indica Water Marks Sediment De Drift Deposits Drainage Pat ng Roots (C3) Crayfish Burr Sils (C6) Saturation Vi	Ves NoNo
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Designation Day (Cook 264 2510 is	City/C	Augus R PONA	NS VALLEY / YULA Sampling Date: Nov 26, 2012
•			State: CA Sampling Point: //
·			ange: 22, TIGN RSE BROWNS VALLEY
			convex, none): CONCAUE Slope (%): 1-2 %
			Long: -121, 40050° ~ Dalum: N40 83
			NWI classification: PFOY
Are climatic / hydrologic conditions on the site typical for			•
			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally problema	itic? NO (If n	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site ma	showing sam	pling point l	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X	No	is the Sample	d Area
Hydric Soll Present? YesX		within a Wetla	
Welland Hydrology Present? Yes <u>Ya</u>	No		105NO
Remarks:			
	•		
VEGETATION - Use scientific names of pla	nts.		
Tree Stratum (Piol size: 5	Absolute Dom % Cover Spec		Dominance Test worksheet:
1 PONULUS FREMONTI			Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2 SSp. fremont.	40% YE	S FAC+	
3			Total Number of Dominant Species Across All Strata: (B)
4			(3)
	<i>40_</i> = Tola	al Cover	Percent of Dominant Species That Are OBL, FACW, or FAC. (A/B)
Sapling/Shrub Stratum (Plot size:)			
1. NONE			Prevalence Index worksheet: Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5.			FAC species x 3 =
	= Tola	al Cover	FACU species x 4 =
Herb Stratum (Plot size:		-	UPL species x 5 =
1 RUBUS AFMENIACUS	30 YE		Column Totals: (A) (B)
2. RUMEX CRISPUS	20 YE	FAC	
3			Prevalence Index = B/A =
4			Hydrophytic Vegetation Indicators: Dominance Test is >50%
5			Prevalence Index is <3.01
6			Morphological Adaptations¹ (Provide supporting
7			data in Remarks or on a separate sheet)
8,	= Tota	l Cover	Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)		. 50101	
1 NONIE			Indicators of hydric soil and welland hydrology must
2			be present, unless disturbed or problematic.
	= Tota	l Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum 10 % Cove	er of Biolic Crust		Present? Yes No
Remarks.			

	tion: (Describe to	•						stors.)
epth ches)	Matrix Color (moist)	%	Color (moist)	iox Features%	Type L	oc² Tex	lure	Remarks
10 DATA	A TAKEIL	DRY	creek	with	WATE	n ot Lou	WING.	<u> </u>
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Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11)	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8) Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (If present):		
Type:	_	Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; che	eck all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Livi	ing Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Sc	oils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:	,	
Surface Water Present? Yes X No _	Depth (inches):/	
Water Table Present? Yes No _	Depth (inches):	
(includes capillary fringe)	Depth (inches):	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitori	ing well, aerial photos, previous inspec	ctions), if available:
Remarks:		

Arid West - Version 2.0 US Army Corps of Engineers

ENCLOSURE D – SPECIAL STATUS SPECIES & CNDDB DATA BASE



United States Department of the Interior FISH AND WILDLIFF SERVICE

Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, California 95825



January 30, 2013

Document Number: 130130083249

Marcus H. Bole & Assoicates 104 Brock Drive Wheatland, CA 95692

Subject: Species List for BVID Dry Creek Tailwater Recapture Project

Dear: Mr. Marcus H. Bole

We are sending this official species list in response to your January 30, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area and also ones that may be affected by projects in the area. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 30, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found <a href="https://example.com/here/beat-species-new-maps-contacts-new-

Endangered Species Division



U.S. Fish & Wildlife Service Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130130083249
Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chlnook (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Candidate Species

Birds

Coccyzus americanus occidentalis

Western yellow-billed cuckoo (C)

Quads Containing Listed, Proposed or Candidate Species:

BROWNS VALLEY (543B)

County Lists

No county species lists requested.

Key:

- (E) Endangered Listed as being in danger of extinction.
- (T) Threatened Listed as likely to become endangered within the foreseeable future.
- (P) Proposed Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the <u>National Oceanic & Atmospheric Administration Fisheries Service</u>. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

- (PX) Proposed Critical Habitat The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our <u>Protocol</u> and <u>Recovery Permits</u> pages.

For plant surveys, we recommend using the <u>Guidelines for Conducting and Reporting</u>
<u>Botanical Inventories</u>. The results of your surveys should be published in any environmental documents prepared for your project.

Calliorna Department of Fish and Game Hararal Oversity Destables Full Comferenced Report for Relacted Elements - Mukhipis Records per Page

	Element Code: ARPBXB0020
Agelalus tricolor	Proplemed blackbard
Agelalus brici	4

Apelatus pricolor	
Proplemed blackbird	Element Code: ASPBXB0000
Status	NDOB Elevnord Ranks Other Lists
Federal Nove	Global G2G3 CDFG Surtur SC
State Nove	Surte SZ
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Commercial Version - Deleti December 30, 2012 - Biogeographic Data Branch Report Present on Wednesday, Jenviery 30, 2013

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Owner HAMADORY PAT

Township: 16N Rumps: 05E Sections: 31 Maridians: M

LedLong 38 18405* 121 45850* UTbi Zone 10 Ne339442 E433112 Razlum: 1 trind Elevanion: 155 R

Information Expires 96/30/2913

Page 1

Cultionies Department of Flath and Cames Natural Obernathy Distabane Full Containmed Report for Beletcind Elements - Sahitighis Records per Page

Agelalus tricolor	for				
Propored bleckbrd	hbed			Element Code, ABPBXB0020	ABMBXBX020
Federal Name State Name	derpt None		Olobal G2G3 State 52		Corto Status SC
Corneral	Mers REQUIRES OF WAT	SPECES MOST NUMBERCUS WATER PROTECTED NESTING	IN CENTRAL VALLEY & \) SUBSTRATE & FORAGE	HARBAL ASSOCIATION OF STATES THOST RECORDS IN CENTRAL VALLEY & VICHIETY LARGELY FRIEILAND TO DAIL DIRECT MINES REGULARES OPEN WATER PROTECTED RESTING SUBSTRATE, & FORMONDAGEA WHEN PROSECT PREY WITHIN A 2FW.	NAMES ASSOCIATES SPECES MOST WANNESTOOLS IN CENTRAL VALLEY'S VYCHRY', LARGELY ENGEING TO CALFORNIA MINTER REQUIRES OPEN WATER PROTECTED HESTEND SUBSTACE, S PORACING AREA WITH RISECT PREY WITHOU A FEW MAJ OF THE CISLOMY
Decum	Decumente No. 315 Oce Aunit: Unitrosm	Map Index 30749	EO Index 4387	4387	Element XXXXX

Origine Neurolina	Origin: Naturality of contracts	•	Bite: 1094-04-23	
Trend	Presence Presumer Extern Trend: Univolve	Record Lesi Updated 1995-01-05	1895-01-05	
Outst Summary	Quant Surmanny Browns Valley (39:2324/5636)			
County Summary Yuba	Yuba			
Lastong	Last over 39.22969 / 121 408821	Township 18N		
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Redha	15 mile Mangaing Preclator MON-SPECIFIC	Bectom 22	Ohr SW	
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Location	LICENSON STOCKNONE RANCH BY PARKY SITE AT THE CONFLUENCE OF DRY CREEK AND YUBA RIVER SOUTH OF MAY 70, 14 MI NE OF MARYSVILLE	R SOUTH OF HWY 20	4 MINE OF MARYSVILLE	
Realcal	Ecological MESTING SUBSITIATE CONSISTS OF CATTALS TULES AND BLACKDERFINES			
German	Germal HISTORICAL COLOMY SITE REDWINGED BLACKBRIDS OBSERVED NESTING AT THIS SITE ON 23 APRIL 1994	NA 23 APRIL 1894		
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California Department of Flah and Genve Hebrail Divers By Distriction Distriction Theorem Projection of Security and Constanted Report for Selected Elements - Multiple Records per Page

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meral OPEN I	General Open Day Mandul, or Pere Mal, Grosslands, Deserts a Schies ands Cauqucterized of Low-Growing veget transfer a substremental mandals, and st notably to the Cale found general income. Net Substrement in Sister dependent upda benedent upda benedents and st notably of the cole found of the substrements and statements.	GRASSLANDS, DESERTS DENT UPON BURROWING I	L SCRUELANDS UNMANUS INCS	CHARACTERIZED BY LO I NOTABLY THE CALFO	JW-GROWING VEG JYNIA GROUND SC	ETATION NUMBEL	
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Location: MARGHTON VICTORTY OF THE YUGA GOLD FIELDS AND SOUTHWEST OF INCLURITE HILL LOCATION SITE GIVEN DAILY AS "SHEEP DIP" MAPPED AT THE MAY LATLICING COORDINANTES GIVEN HANDMAIN ERROR DISTANCE GIVEN AS 641 MES).

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wemet boot famy sterms	p		Element Code ICBRA03030	
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Decumence No. 178 Deciliant. Unit	3 179 Marp Index 31403 Literature Cocuments Allengue Cocuments Allengue Cocuments	EO Index 30676	1	Element 192-03-09 Sitement 192-03-09 Site 1952-03-09
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County Summary Notes	Cland Bowning Brown Valley (3912124/5438) burity Summany Yube			
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California Department of Fish and Game Manual Diversity Delabore Fall Conference in money

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Summary	Quad Summary Browns Valley (3012124/3438)						
County Summary Yuban	Yuka						
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Elevations 63.8	631		Symbol Type: PODIT	II: PODIT	Meridian	3	
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	General OCCUR Micro PREFE		Stude S2	CDFG Status	
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Owner Charles and Control of the Con	Ownterchlamenton	1 BACHOWIN			

California Department of Fish and Game Natural Diversity Establise Full Condensed Report for Belected Elements - Multiple Records per Page

	Element Cade InCOL 48011 Other Lates CDFG Status	—— Harian Ajaca widon. Gentra) occurs cara with central valey of Calforna. In Assocation with Bue elderbefty (saubucus nexicana)
ì	MDDS Element Ranks —— Global GST2 State S2	Y OF CALIFORNIA. IN ASSOCIATION W
Desmocerus cellfornicus dimorphus	valey elderbery ünglich beste Saleka Federal Treelend Slate Nore	General OCCURS ONLY IN THE CENTRAL VALLEY

Element 1994-07-307 She 1994-07-307 2002 11-07 Oct. XX Micho Prefers to Lay Eggs in Elderbergnes 2-2 inches in diameter, some pheferic sacham for "Stressed" Elderbergnes Record Last Updated Legisher ALDNG TRANSLASSON LIBE 0.45 ME MORTH OF YUBA RIVER 2 MEES WINN OF HALLWIDDO BLVD X WALINIT AVE Legisher Debak Translasson tower 55539 1 ROOT BALL 111 FEET NE OF TOWER 医尿管管 Township Range Rection: Meridian Magging Precision: NON-SPECIFIC Spridgel Type: POLYGON EO Index 49299 Map Imber: 48299 Quad Surveyary Brown Valley (3012124/5438) County Surveyary Tube Lathung: 30 2008/27-121 47439* UTM 2mm-10 84340169 883134 Origin Nassa/Natve occurrence Presence Presumed Extent Trend Unknown

Ecological HABITAT CONSISTS OF A MESIC RIPARIAN AREA

There I Therats willinge desturbance due to roldstransbassion line wante-wace a other activities not relused to project games exit holes in consecut milker of steas ***. Camera exit holes in consecut milker of steas ***.

Owner?Manager UNKNOWNY

Ourselfkanager UNENOWN

Decumence No. 202 Dec Runts. Union Oriote: Natur	Count	Map Index: 40300	EO Imder 49300	Element Sits	Element 1996-07-XX Sharrent 1996-07-XX Shar 1996,07-XX
Presence	Presence Presumed Extensi Trend Unknown			Record Last Updated 2002 11-07	2002 11-07
County Summary Yude	Quad Summary Browns Valley (3912124/5438) ounty Summary Yubs	38)			
Let/Lory 39 184 UTh Zone 1 Arau Elwestor: 100 h	UTM ZONE-10 H433939 E832098 Ana. 100 h		Mapping Procinicae NON-SPECIFIC Symbol Type POLYSON	Township 154 Range 04E Beether 01 Mordian M	ž

LOCATION OF MARESHAM OF HAMACHTON RO'S MARSYNLLE SAMPTSVILE RO'S ALONG TRANSMASSION LINE O'T MAE SOUTH OF YORA RIVER LOCATION DAMA TRANSMASSION TOWER MOTAS I CLIMP 180 FEET WEST AND 1 CLIMP 236 FEET WEST Ecological: MARTAT CONSISTS OF A MESICREPARIAN MEA

GHAWEL EXTRIBES CHERENCE IN USEAD WOOD DURING JULY 1996 CHOWTH FORM = 2 CLUMPS. NUMBER OF STELES = 1 MCH. 4 FOR 1 CLUMP AND 19 FOR OTHER CLUMP. PLANTS MEMCTED BY UNKNOWN ACTIVITY. THEM THERATS INCLUDE DISTURBANCE DUE TO KIDAD/PRANSAESSION LINE MAINTEMANCE AND OTHER ACTIVITIES MOT PELATED TO PRIDJECT

Ownerfländiger UNBONDWN

OCCUPANTO NO 203		1930	ECHINES: 49307	48301		The second		
Occ Rank	E				Li.	Jonnson	Element 1998-07-XX	
Origina	Driger Natural/Native occurrence					å	1996-07-03	
Protents	Presente: Presumed Extant Trend: Unknown				Record Last Updated 2002 11-07	patent	2002 11-07	
Chard Hammeny	Guard Burrenary Browns Valley (3912124/5438)							
County Summary Yuba	Yuba							
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Redien	Rundlers: 1/10 male	44	spekry Precision	Mapping Precision: NON-SPECIFIC	Bectlon: 01	5	Or XX	
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Location Atows TRANSARSSION LNE, D.5 ARLE SOUTH OF YIGH RIVER & 1.6 MLES.

Location Detail TRANSARSSION TOWER 56/264 1 ROOT BALL 116 FEET SE ACCESS ROAD

ECOMPICAL INDBITAT COMBISE OF A MESIZFRANDA NREA.
Thrus THREATS MICLUDE DISTINGAME DUE TO FROUTHANDAINSSION I DRE MARTEMANCE & OTHER ACTIVITIES HOT RELATED TO PROJECT GAMME. EST HOLDER ACTIVITIES HOT RELATED TO PROJECT GAMME.
GAMMES EST HOLES IN DEAD WOOD DOGSERVED DARRIGARY 1986 GROWIN FORM - ROOT DALL HANGER STEARS + 1 MCH = 1

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Communicial Version - Daniel December 30, 2012 -- Biognographic Data Brench Report Printed on Weidnesday, Jenuery 30, 2013

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Colfornia Department of Fish and Game Noburu Deversity Database Full Compensed Repart for Solacian Elements - Malitipia Records pro Page

Desmocerus	Desmocerus californicus dimorphus		· - -	
valley aderbi	withy admittenty longition beetle		Element	Code IICOLAROTI
Federal State	Ferderal Threstoned Stoke Nove	Global G372 State 52		CDFG Status
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Germen	General DCCLIRS ONLY IN THE CENTRAL VALLEY OF CALIFORNIA IN ASSOCIATION WITH BLUE ELDERDERRY ISABBUCUS NEXICANAI	LIFORNIA IN ASSOCIATIO	IN WITH BLUE ELDERINE RRIV IS	AMBUCUS WE XICANA1
Micro	MACHO PREFERS TO LAY EGGS IN ELDERBERRRIES 2.8 INCHES IN DIAMETER, SOME PREFER MCE SHOWN FOR "STRESSED" ELDERBERRIES	8 INCHES IN DIAMETER, S	ONE PREFERENCE SHOWN FO	R*STRESSED* (LDERBERRIES

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Elyment 1994 07-3X Elyment 1994 07-3X Site 1996-07-3X Record Lett Updeled 2002 11-07	:	Dtr XX	LANATVALLE RO TEO TO PROJECT
Dates L Ste Ste Updeted		15N 04E 10	SMUES OT RELA
Record Last		Township Range Sections Meridian	DN RD K MARY R ACTIVITES N
49.902		Mapping Preclator NON-SPECIFIC Grebot Type POTYGON	LEEROON ALONG TRANSLASSION EINE 12 JABES BOUTH OF VIEW REPRETA E 12 MEES INN OF HUMBONTON RD KINARYSMELE SLANGTVILLE RO DENIE VICHARY TRANSLASSION TOWER STORM? THEM THERE ATS INCLUDE DETAINANCE DIE TO ROADTTEANSMESSON, EIN LAUNTENANCE & OTHER ACTIVITES HOT PRELATED TO PROJECT General TYPE OF VELB CHETELTON HOT GRAND.
E0 mos 49 902		Mapping Precialo	TH OF YUBA RIVER & 1 DAD/TRANSMESSION L
48302			TOWER START MUCE DUE TO R VOT GIVEN
Transce No. 204 Nap Index - 45.002 Oc Ravie: Unitropien Origin: Natural Native occurrence Freserves Pressured Estant Trend Uhlaryer	Quied Summary - Browns Valley (3012124/5436) ounty Summary - Vubs	LANLong 39,17758*, 131.48971* UTM Zone-10 M4337599 E632181 Area Peraffore	Locution ALONG TRANSJASSION LINE 12 MLES 9047 Locution Deuble VICHATY OF TRANSJASSION TOWER 917857 Thrus THERATS URLINDE DISTURBANCE DUE TO R General TYPE DF VELB DETECTION HOT GAVEN
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Occumence No. 204 Occ Barie: Units Origin: Naturelica Priss Trend: Units	Qued Summary Stom County Summary Yuba	Lantong UTM Arak Elevation	Location De The The Germ

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Downingle pusille				
dwarf downwar			Element Code, PDCAM060C0	WOFOCO
- Tables -		NDOS Element Ranks	- Deliver	Other Lists
Federal Nove	Clot	Globat G2		CHPS List 22
State None	TS	State \$2		
General VALLE	- Medical Associations General Valley AND FOOTHS GRASSLAND (NESIC SITES) VERNAL POOLS	RWL POOLS		

Element 1999-XX XX Sites 1999-XX XX Record Lint Updated 2000-08-09 Dir XX Township 15N Ramps 05E Section: 28 Martitlan M Dunid Burmany Caro & West (3912) (3543b). Browns Valley (35) (2454) (9) Whiteland (3912) (4543b). Smmhde (3912) (512) (513) (513) (513) (513) MICO VERNAL LAKE AND POOL MARGINS WITH A VARIETY OF ASSOCIATES. IN SEVERAL TYPES OF VERMAL POOLS 1.485M. Happing Precision: NON SPECIFIC Bymbol Type POINT E0 Index 43393 Map Index 43393 Lutik cmg - 39 1264 Pt. 121 3780 Pt.
UTNE Zone-10 M4332063 EM0199
Rediss: 5 mág
Elevation: 250 ft. Desgin Natura Natura Discrete Presente Presentation Presentation Districts Occurrence No. 95 Dec Rank Unkno

Localion: TRALE ANT FORCE BASE EAST OF MANYSPALLE
Localions TRACTICATION NOT NOTWINE THE BEBASE MAPRED TO REFLECT UNCERTAINTY
General, ONLY SOURCE OF DECIDIANTION FOR THIS OCCURRENCE IS SITE MAJE NOTED BY U. GAUSE
Ownershamspar COO-8FALE AFB

110000	Occurrence No. 114 Map Index 54722	54722	EO Imper 54722	54722]	Dates La	Dates Last Been
Origina N.	Oce Ranti: Unknown Origin: NaturalNative occurrence					Element	1965-05-17
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California Department of Fish and Gents Natural Dhensity Dalabene Full Contemped Report for Selectina Elements - Multiple Records per Page

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California Department of Fish and Game Natural Diversity Distablese Full Consistenced Report for Selected Elements - Multiple Records per Page

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California Department of Fish and Gleve Netural Diversity Database Full Contensed Report for Selector Elements - Multiple Records per Page

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County Summary	Yube						
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Trend	Unkingwin		
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Location Detail.		E 14 OF SECTION 20	
Ecological		PLAKTS FOLMD THROUGHOUT VERNUL POOL GROWING CLUMPED IN THE CENTER SPARSER ON THE EDGES. WITH ELLCOCHARIS MACHDGYADAYA LASTHEWA FIREMONTIL. GLABERRIMA RAMINICULUS BOWARGEMSIS VAR TRIFETALUS. CRASSULA ACUDATICA I	PLAKTS FOUND THROUGH VERMUL POOL GROWING CLUMPED IN THE CENTER SPARSER ON THE EDGES. WITH ELEGOCHARIS MACHOSTADHYA LASTHEMIA FREMONTI. (GLABERRIMA RAMMICIALUS BOWARENSIS VAR TRIPETALUS. CRASSLIA ACTUATICA. DOMININGIA
	ENCORMUTA ETC		
Corneral		ABOUT 300 PLANTS CREEFIVED IN 1998 1000S OF PLANTS CREEFIVED IN 2010	
Ownerflämager	DOD-BEALE AFB		

_	Lepidurus packardi		
	ermal pool ladpole siving		Element Code ICBRA10010
	Status	NODB Element Ranks	Other Elets
_	Federal Engageed	Global G3	COFG Status
	State Nome	Blatte 5253	
	Habitat Associations		
_	General Inhabits vernal Pools and Swales in the Sacralemo Valley Containing Clear to Hoaly Turbed water	HE SACRAMENTO VALLEY CONTA	AINING CLEAR TO HIGHLY TURBIO WATER

Mario: POGS COMMON, Y FOUND W GRASS BOTTONED SWALES OF UNPLOWED GRASSLANDS SOME POOLS ARE MUD BOTTOMED & HIDNEY TURBED Element 1981-04-13 WS 40 Record Lynt Upstated ¥ \$ ₩ = ■ Township Ramps Bection Mariallan Mapping Practeion: SPECIFIC Symbol Type PORT EO Indige: 14815 Map bridge 32535 Ouad Summary Browns Valley (3912/24/5438) Decurance No. 35 Map Indea Oc Rank University Natural Physician Contrara Personne Personne Frank University External Trend University Latitong 39 15039* / 121 4/637* UTM: Zone 10 ret334569 E532521 Radius: 60 meten. County Summary Yuba

LECHION: BEALE AFE W OF RUNWAY 21 KM 55W OF MARYSVILLE: SMARTSVILLE ROAD X HAMMONTON ROAD

LOCATION DISTAILS SECTION OF SUBJECT ET OF SURVEY

Ecological NORTHERN HARDPAN VERNAL POOL

There (BAZING, DANANGE CHANNEES FUTURE RALROAD CONSTRUCTION
GOWNNE POOL BEXT L PACKARDI OBSERVED 1 COLLECTED FOR PERSONAL COLLECTEDN OF D.G. ALEXANDER LINDERBELLA DICCIDENTALS ALSO
GORGERYED 2 OF 18 POOLS SAMPLED HAD L PACKARDI PRESENT

OwnerManager DOD-BEALE AFB

Occurrence No. 36 Occ Runk Uni	36 Map Index 32538 Unknown	32538	EO Index 14817	14817	١٠	Dates Las	Element 1851-04-13
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Ound Burnary	Ound Burnnury Stowers Valley (3012/24/5436)						
County Summary Vubs	Yubs						
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TIMM GRAZING DRAINAGE CHANNELS, FUTURE RATROAD CONSTRUCTION

Genwei fool rezat L pacaaricobsérred i collected for personal collection of dig alexange i underella occidentais a so observed adsourd Lakvae present 2 of 19 pous s aud i pacaaric

Oververthlamager DOD-GEALE AFB

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— Dates Last Seen ——————————————————————————————————		XX ag	JARRENCE FO
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EO Indes 30627		Mapping Precision: SPECFIC Symbol Type POLYGON	IO AND CAUP REALE HO IN SECTION 24 THIS OO
31403			TTVILLE RO MEWHERE LE POOLS
Trems No. 106 Map Index 31403 Oct Rawl: Univoxen Orgin: Machani Maha occumenta Present a Presenta Edane Treed Universe	Count Summary Browns Valley (3912124/5436) ourly Summary Yubs	LEMILLONG 39 14172* / 121 46122* UTM Zons-10 M4333831 E432962 Antel 1 076 0 forms (heydlon: 90 A)	LOCATION DETWEEN MANYSYTLE SMARTNILE ROAD AND CAMP RETALE HOAD IN THE WOMINTY OF REEDS CREEK BEALE AFB LOCATION DETAILS SOMEWHERE IN SECTION 24 THIS OCCURRENCE WAS SMAPPED TO THE COMMINITY OCCURRENCE FOR MORTHERN MADPIAN VERNAL POOLS.
Occurrence No. 106 Oce Ramin' Unividual Origin: Manualidi Presence Presence Freed (Phintrysm	County Summary Videa	Laddang 39 14: UTM Zom. Anum + 076 Elevation: 90 A	Location Detail 1

GAMENTE LEPROSRUS PACKARDI OBSERVED IN THE DARE FEATURE INSPECTED IN SECTION 24 SUGNET RECORD JUDI B. LTNCHI ALSO OBSERVED Ecological NATURAL VERNAL POOLS

Denerthamper DOD-BEALE AFR

Commercial Version - Dated December 30, 2012 -- Bogwographic Data Branch Report Printed on Wednesday, January 30, 2013

Page 13 Information Explines 04/30/2013

Calfforms Department of Fesh and Came Autural Diversity Database Fall Condensed Report for Selected Elements - Multipla Records per Page

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Ecological Worther RN HAGDPAN VERNAL POOR
These: GRAZNO SOLAMACE CHANNELS FUTURE RAKIRDAD CONSTRUCTION
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Caffornia Department of Fish and Game Nebural December Dalabame Full Combened Report for Relative Elements - Mulitpia Records per Page

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Coffernia Oepartment of Fish and Game Natural Diversity Ostobase Full Condemied Report for Selected Elements - Mathyle Records per Page

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MACH. WHERE BY THE POOL SE WAS NEST COMMUNITY COMMUNITY. AND TIDS Element 1991-04 33ts 1991-04 Record Last Updated. 5 N S 3 Township Range Bectlon: Mentitler Mapping Preclator: SPECIFIC Bymbol Type, POWT ED Index 1529 Map Index 32551 39 16297*, 121 45144* | Zere-10 NA3300A E633787 | 80 meters | 96 N Quad Suminary Browns Valley (3912124/5436) County Summary Yuba Orlyn. Natural Native occurence Presence Presumed Estant Therd University Occurrence No. 94 Occ Namb. Unkn Lathong

LOCATION NORTHWEST PORTION OF BEALF AIR FORCE BASE, 0.3 KM S.OF HAMMONTON ROAD AT MARYSWILE SAARTISMLE ROAD Location Dated. IN PORTION OF SUBLIMIT A ALSO REPORTED STAPLY FROM "DEALE ART FORCE BASE" BY D.C. ROCERS

Ecological INDIFFRERN HANDFAN VERNAL POCK

GRAZINE, DRAINAGE CHANNELS, FUTURE RAILROAD CONSTRUCTION

PICH, MAZI I, OCCIDENTALIS DESERVED + COLLECTED DIV 272MP, XAZMPA A 4/1976 AND DE POSITED NI PRISMAL COLLECTION OF DIG ALEXANDER, 13 OF 19 POOLS SAMPLED ON BASE MAD I, OCCIDENTALIS SUBUNITA REFERS TO AREA MAPPED IN 1970 SAMPLEY

Demantifianager: DOD-BEALE AFB

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County Summary, Tube	Tube			
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LIGEBER HIDSTHWEST PORTION OF IERLE ARFORCE BASE, 0 8 KM S OF HALAMONTON ROAD AT MARYSVILLE SMARTBYRLE ROAD

Ecological NOHTHERN HARDPAN VERNAL POOL LOCATION Details NORTHERN AREA OF SUBLIMIT A

GRAZING, DRAINAGE CHANNELS, FUTURE RAILROAD CONSTRUCTION Ĭ

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DOD-SEALE AFB

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Ecological INDRITHERN HARDPAN VERNAL POOL

Their GRAZING DRAININGE CHANNELS FUTURE RAILROAD CONSTRUCTION

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DOD-BEALE AFB Ourmer/Manager Commercial Vacuum - Emised December 30, 2012 - Biogeographic Data Branch Report Printed on Wednesday, January 30, 2013

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Linderielle occidentalis		
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Commercial Version – Dated December 30, 2012 – Biognographic Data Bramm Report Privited on Windresday, January 30, 2013

Information Expires 04/30/2013

California Department of Fish and Game Natural Divorsity Database Full Contlemed Report for Selected Elementa - Multipla Records per Page

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Commercial Vanion - Dated December 30, 2012 - Bogsographic Data Branch Report Printed on Wednesday Jenuary 30, 2015

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Northern Hardpen Vernal Pool

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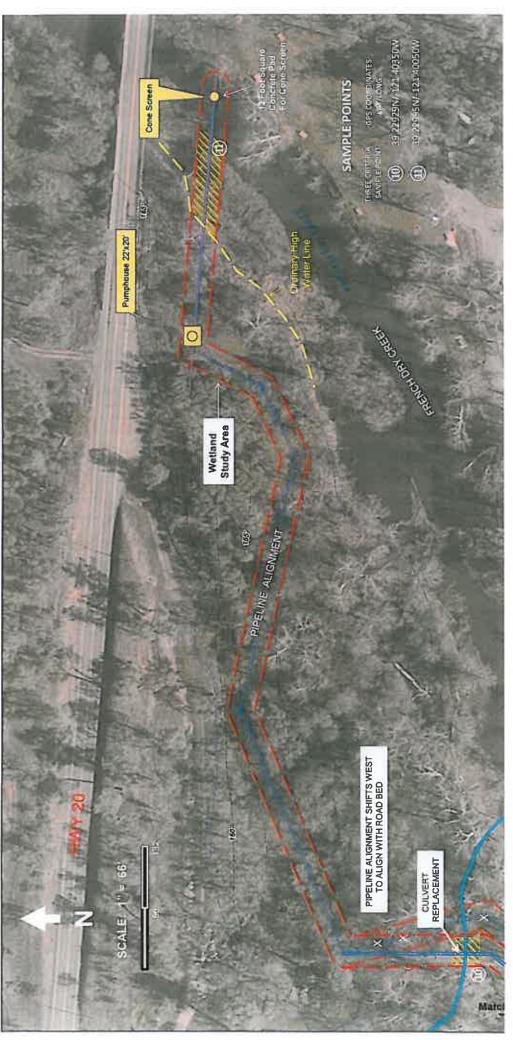
Page 23

Information Expires OS/30/2013

Page 22

Information Expires 04/30/2013

ENCLOSURE E – WETLAND DETERMINATION MAP



WATERS OF U.S. / TEMPORARY IMPACTS Data Point 10: 600 sf. / 45 sf.

Data Point 11: 4,752 sf. / 474 sf.

WATERS OF U.S. / PERMANENT IMPACTS Data Point 11: 3,752 sf. / 144 sf. Concrete Pad for Cone Screen

Legend

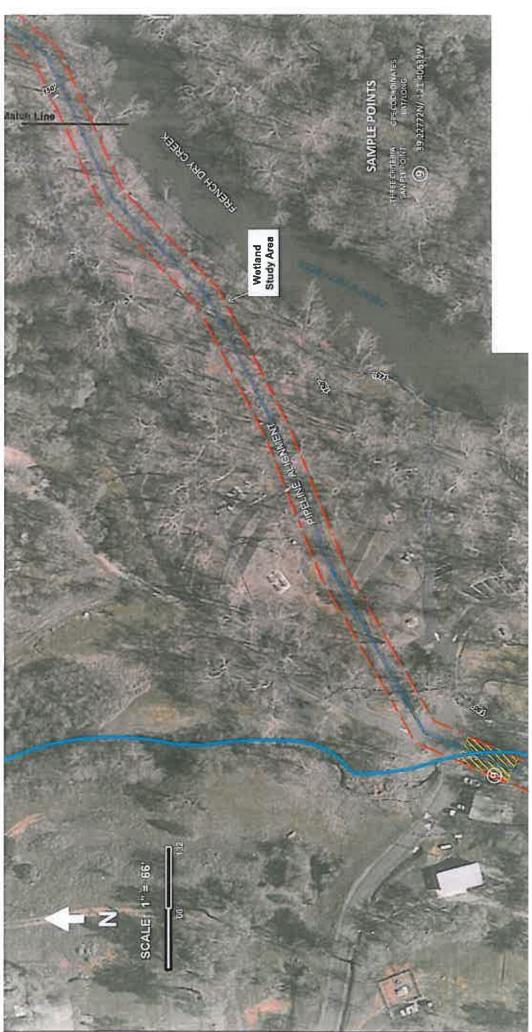
USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117 Property located within Sections 21, 22, 28, and 29; T 16N, R SE, Mt Diablo BM. March 8, 2013





Wetland Delineation Sheet 1 of 11



WATERS OF U.S. / TEMPORARY IMPACTS Data Point 9: 1,500 sf. / 150 sf.

Legend

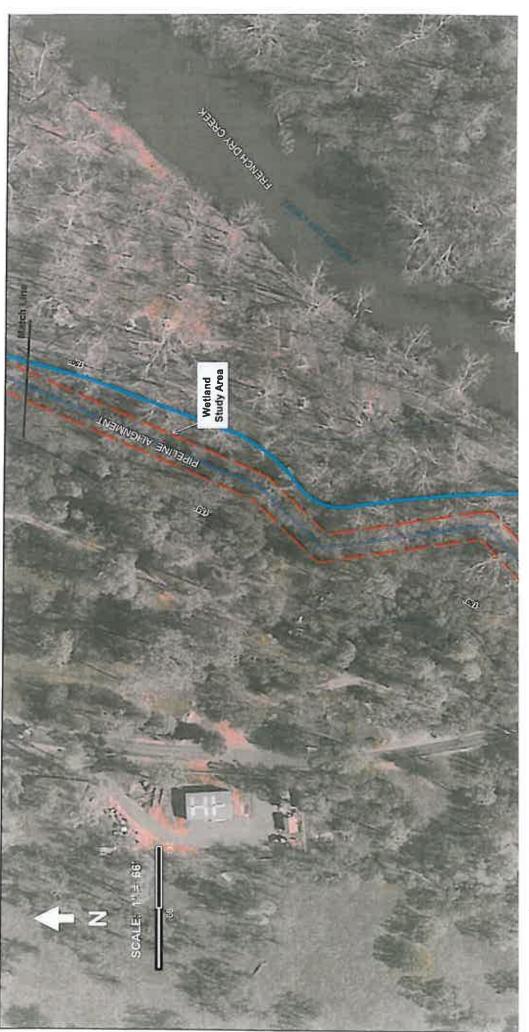
USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117
Property located within Sections 21, 22, 28, and 29; T 16N, R SE, Mt Diablo BM.
March 8, 2013





Wetland Delineation Sheet 2 of 11



WATERS OF U.S. / TEMPORARY IMPACTS

None on this display

Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project
Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-01.17
Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM.
March 8, 2013





Wetland Delineation Sheet 3 of 11



WATERS OF U.S. / TEMPORARY IMPACTS

None on this display

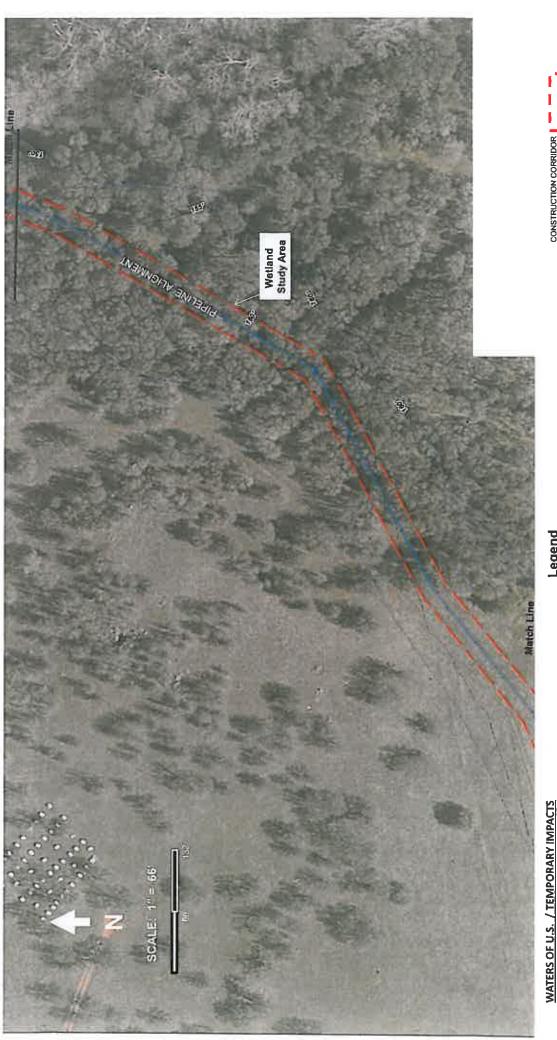
Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project
Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-01.17
Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM.
March 8, 2013





Wetland Delineation Sheet 4 of 11



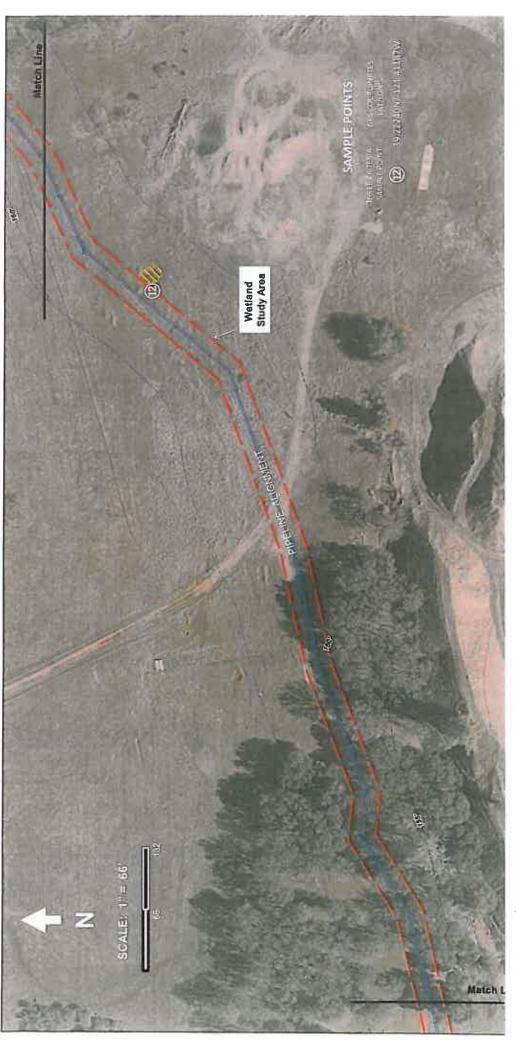
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USACE Jurisdictional Delineation: Dry Creek Recapture Project
Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117
Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM.
March 8, 2013



Wetland Delineation Sheet 5 of 11



WATERS OF U.S. / TEMPORARY IMPACTS Data Point 12: 840 sf. / 84 sf.

Legend

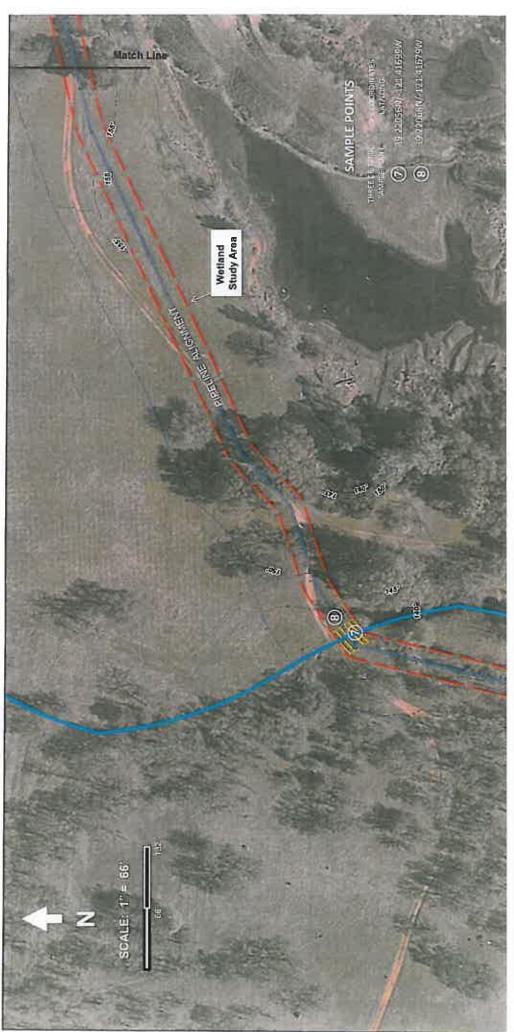
USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117 Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM. March 8, 2013





Wetland Delineation Sheet 6 of 11



WATERS OF U.S. / TEMPORARY IMPACTS Data Point 7: 750 sf. / 75 sf.

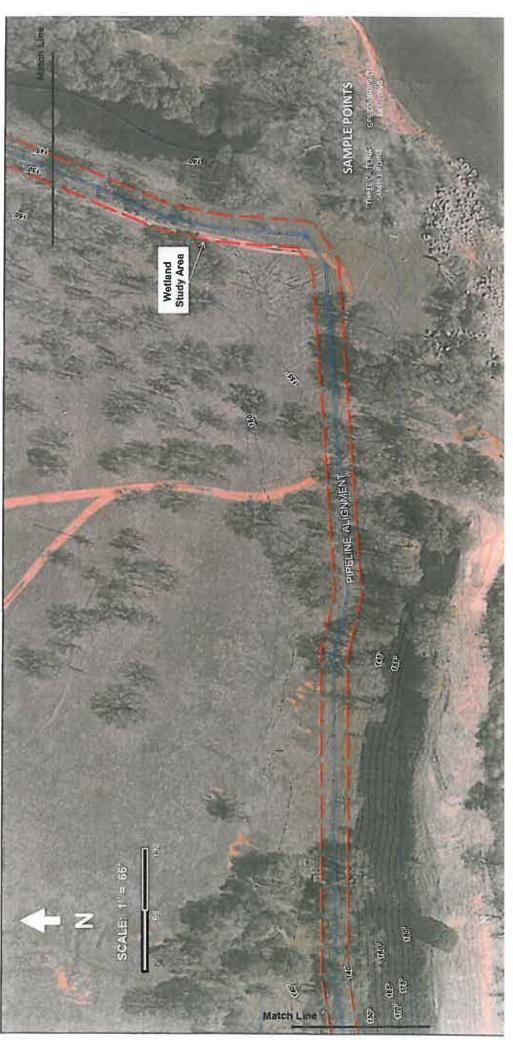
Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project
Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117
Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM.
March 8, 2013





Wetland Delineation Sheet 7 of 11



WATERS OF U.S. / TEMPORARY IMPACTS

None on this display

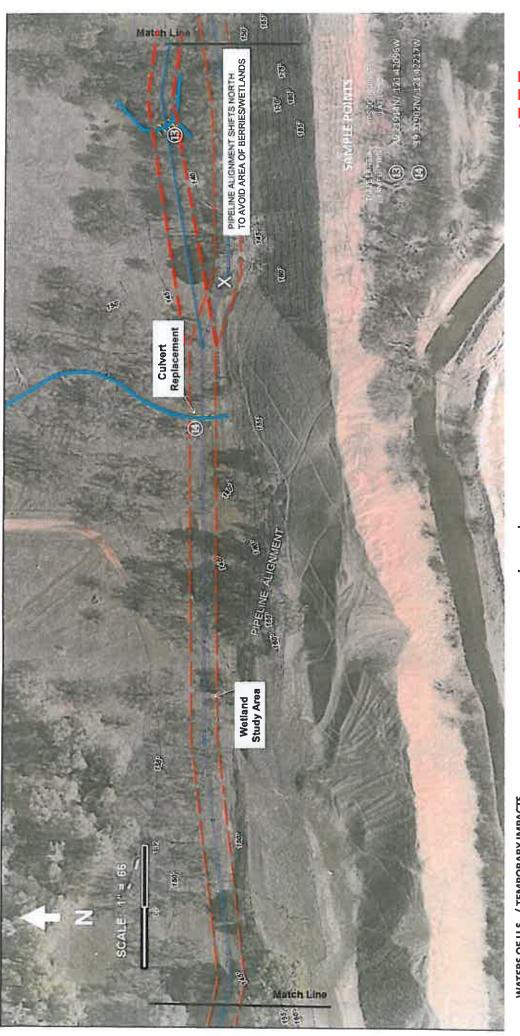
Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117 Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM. March 8, 2013



Wetland Delineation Sheet 8 of 11



WATERS OF U.S. / TEMPORARY IMPACTS

Data Point 13: 180 sf. / 18 sf. Data Point 14: 150 sf. / 25 sf.

Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117
Property located within Sections 21, 22, 28, and 29; T 16N, R SE, Mt Diablo BM.
March 8, 2013

CONSTRUCTION CORRIDOR 30 FEET IN WIDTH DELINEATED AREAS SWALE/DRAINAGE



Wetland Delineation Sheet 9 of 11

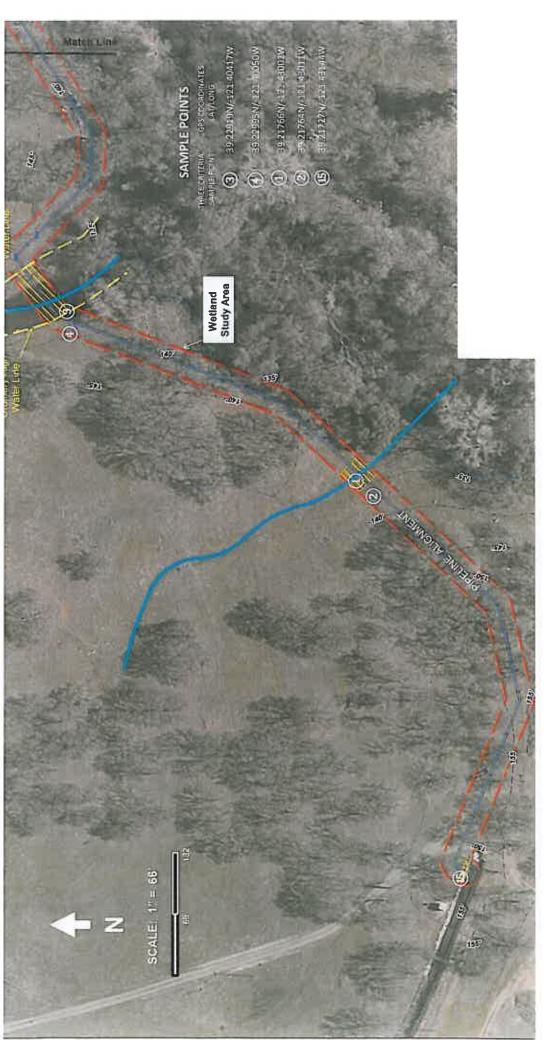


WATERS OF U.S. / TEMPORARY IMPACTS Data Point 5: 540 sf. / 54 sf.

Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project
Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117
Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM.
March 8, 2013

CONSTRUCTION CORRIDOR 30 FEET IN WIDTH DELINEATED AREAS SWALE/DRAINAGE Wetland Delineation Sheet 10 of 11



WATERS OF U.S. / TEMPORARY IMPACTS
Data Point 3: 1,500 sf. / 150 sf.
Data Point 1: 840 sf. / 84 sf.
Data Point 15: 25 sf. / 25 sf.

Legend

USACE Jurisdictional Delineation: Dry Creek Recapture Project

Conducted By: MARCUS H. BOLE & ASSOCIATES, PHONE: 530-633-0117 Property located within Sections 21, 22, 28, and 29; T 16N, R 5E, Mt Diablo BM. March 8, 2013

CONSTRUCTION CORRIDOR 30 FEET IN WIDTH DELINEATED AREAS SWALE/DRAINAGE



Wetland Delineation Sheet 11 of 11

ENCLOSURE F – NATIONWIDE 12 PERMIT SUMMARY INFORMATION and REGIONAL CONDITIONS FOR CALIFORNIA



U S Army Corps of Engineers Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits - March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

12. Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in

non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 27.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15)

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

□ 1. Navigation.

- ☐ (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- □ 2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
- □ 3 Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
- 4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

- □ 5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
- ☐ 6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
- ☐ 7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
- □ 8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
- □ 9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
- ☐ 10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
- ☐ 11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
- □ 12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
- ☐ 13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The affected areas must be revegetated, as appropriate.
- ☐ 14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.
- ☐ 15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in

writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

□ 17. Endangered Species.

- ☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
- ☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
- (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete preconstruction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.
- ☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.
- (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of

separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

☐ 18. Historic Properties.

- ☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
- ☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
- ☐ (c) Non-federal permittees must submit a preconstruction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the preconstruction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.
- ☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause

effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

- (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.
- □ 19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.
 - ☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
 - ☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.
- ☐ 20 Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:
 - ☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States

to the maximum extent practicable at the project site (i.e., on site).

- ☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
- □ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.
- (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.
- ☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.
- (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.	property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below." (Transferee)
(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrubshrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.	(Date) 26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by
☐ 21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.	the Corps with the NWP verification letter and will include: (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions; (b) A statement that any required mitigation was completed in accordance with the permit conditions;
☐ 22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or	and (c) The signature of the permittee certifying the completion of the work and mitigation. 27. Pre-Construction Notification.
a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements. 23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination. 24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit	☐ (a) Timing Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:
of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.	(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the	from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species 4 of tage

under Section 7 of the Endangered Species Act (see

33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

- ☐ (b) <u>Contents of Pre-Construction Notification</u>: The PCN must be in writing and include the following information:
 - ☐ (1) Name, address and telephone numbers of the prospective permittee;
 - ☐ (2) Location of the proposed project;
 - ☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);
 - ☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;
 - ☐ (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
 - ☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity

of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

- ☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.
- ☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

- ☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.
- ☐ (2) For all NWP 48 activities requiring preconstruction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each preconstruction notification that the resource agencies'

concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

- (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.
- ☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.
- ☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.
- ☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

☐ (a) 28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

- 1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:
 - a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
 - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and
 - Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing.
- 2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

- 3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.
- 4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.
- 5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.
- 6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.
- 7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.
- 8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.
- 9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.
- 10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

- 11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.
- 12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.
- 13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.
- 14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.
- 15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.
- 16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.
- 17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

- 1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.
- 2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

IV. Utah Only

- 1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.
- 2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream
- For NWP 27, facilities for controlling stormwater runoff, 3. construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

V. Colorado Only

- 1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.
 - a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).
 - b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]
 - c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.
 - (1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to

- provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.
- (2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).
- (3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in building structures is not authorized by this nationwide permit.
- (4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.
- d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.
- 2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado
 - e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weedfree straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.
 - f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

- g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.
- h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:
 - (1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR
 - (2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR
 - (3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.
- 3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas
 - i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States

(http://soils.usda.gov/technical/classification/taxonomy).

j. Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A

spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

- a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.
- b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa.usace.army.mil/reg/)
- c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website:

http://www.fws.gov/mountain%2Dprairie/endspp/name_c ounty_search.htm

.C. Further Information

- 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
- 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
- 3. NWPs do not grant any property rights or exclusive privileges.
- 4. NWPs do not authorize any injury to the property or rights of others.
- 5. NWPs do not authorize interference with any existing or proposed Federal project.

D. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to

jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water yearround during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning

natural/historic functions to a former aquatic resource. Reestablishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to,

stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin (Effective March 19, 2012 until March 18, 2017)

- 1.* When pre-construction notification (PCN) is required, the permittee shall notify the U.S. Army Corps of Engineers, Sacramento District (Corps) in accordance with General Condition 31 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. In addition, the PCN shall include:
- a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States:
- b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity, as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for activities located within the boundaries of the Los Angeles District shall comply with the September 15, 2010 Special Public Notice: Map and Drawing Standards for the Los Angeles District Regulatory Division, (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/regulatory/); and
- c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the site, and all waters of the U.S. proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be identified on the plan-view drawing(s) required in subpart b of this Regional Condition.
- 2. For all Nationwide Permits (NWPs), the permittee shall submit a PCN in accordance with General Condition 31 and Regional Condition 1, in the following circumstances:
 - a. For all activities that would result in the discharge of fill material into any vernal pool:
- b. For any activity in the Primary and Secondary Zones of the Legal Delta, the Sacramento River, the San Joaquin River, and the immediate tributaries of these waters;
 - c. For all crossings of perennial waters and intermittent waters;
- d. For all activities proposed within 100 feet of the point of discharge of a known natural spring source, which is any location where ground water emanates from a point in the ground excluding seeps or other discharges which lack a defined channel; and
- e.* For all activities located in areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas Federal Register dated March 12, 2007 (72 FR 11092)), in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: http://www.swr.noaa.gov/efh.htm.
- 3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property for areas (1) designated to be preserved as part of compensatory mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed or placed in or adjacent to navigable waters. The recordation shall also include a map showing the surveyed location of the preserved area or authorized structure.

- 4. For all waters of the U.S. proposed to be avoided on a site, unless determined to be impracticable by the Corps, the permittee shall:
- a. Establish and maintain, in perpetuity, a preserve containing all avoided waters of the U.S. to ensure that the functions of the aquatic environment are protected;
- b. Place all avoided waters of the U.S. and any upland buffers into a separate parcel prior to discharging dredge or fill material into waters of the U.S., and
- c. Establish permanent legal protection for all preserve parcels, following Corps approval of the legal instrument;

If the Corps determines that it is impracticable to require permanent preservation of the avoided waters, additional mitigation may be required in order to compensate for indirect impacts to the waters of the U.S.

5. For all temporary fills, the PCN shall include a description of the proposed temporary fill, including the type and amount of material to be placed, the area proposed to be impacted, and the proposed plan for restoration of the temporary fill area to pre-project contours and conditions, including a plan for the revegetation of the temporary fill area, if necessary. In addition, the PCN shall include the reason(s) why avoidance of temporary impacts is not practicable.

In addition, for all activities resulting in temporary fill within waters of the U.S., the permittee shall:

- a. Utilize material consisting of clean and washed gravel. For temporary fills within waters of the U.S. supporting anadromous fisheries, spawning quality gravel shall be used, where practicable, as determined by the Corps, after consultation with appropriate Federal and state fish and wildlife agencies;
- b. Place a horizontal marker (e.g. fabric, certified weed free straw, etc.) to delineate the existing ground elevation of the waters temporarily filled during construction; and
 - c. Remove all temporary fill within 30 days following completion of construction activities.
- 6. In addition to the requirements of General Condition 2, unless determined to be impracticable by the Corps, the following criteria shall apply to all road crossings:
- a.* For all activities in waters of the U.S. that are suitable habitat for Federally-listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed;
- b. Road crossings shall be designed to ensure that no more than minor impacts would occur to fish and wildlife passage or expected high flows, following the criteria listed in Regional Condition 6(a). Culverted crossings that do not utilize a bottomless arch culvert with a natural stream bed may be authorized for waters that do not contain suitable habitat for Federally listed fish species, if it can be demonstrated and is specifically determined by the Corps, that such crossing will result in no more than minor impacts to fish and wildlife passage or expected high flows;
- c. No construction activities shall occur within standing or flowing waters. For ephemeral or intermittent streams, this may be accomplished through construction during the dry season. In perennial streams, this may be accomplished through dewatering of the work area. Any proposed dewatering plans must be approved, in writing, by the Corps prior to commencement of construction activities; and

d. All bank stabilization activities associated with a road crossing shall comply with Regional Condition 19.

In no case shall stream crossings result in a reduction in the pre-construction bankfull width or depth of perennial streams or negatively alter the flood control capacity of perennial streams.

- 7.* For activities in which the Corps designates another Federal agency as the lead for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 as amended, pursuant to 50 CFR Part 402.07, Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH), pursuant to 50 CFR 600.920(b) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, pursuant to 36 CFR 800.2(a)(2), the lead Federal agency shall provide all relevant documentation to the Corps demonstrating any previous consultation efforts, as it pertains to the Corps Regulatory permit area (for Section 7 and EFH compliance) and the Corps Regulatory area of potential effect (APE) (for Section 106 compliance). For activities requiring a PCN, this information shall be submitted with the PCN. If the Corps does not designate another Federal agency as the lead for ESA, EFH and/or NHPA, the Corps will initiate consultation for compliance, as appropriate.
- 8. For all NWPs which require a PCN, the permittee shall submit the following additional information with the compliance certificate required under General Condition 30:
- a. As-built drawings of the work conducted on the project site and any on-site and/or off-site compensatory mitigation, preservation, and/or avoidance area(s). The as-builts shall include a plan-view drawing of the location of the authorized work footprint (as shown on the permit drawings), with an overlay of the work as constructed in the same scale as the permit drawings. The drawing shall show all areas of ground disturbance, wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. Please note that any deviations from the work as authorized, which result in additional impacts to waters of the U.S., must be coordinated with the appropriate Corps office prior to impacts; and
- b. Numbered and dated post-construction color photographs of the work conducted within a representative sample of the impacted waters of the U.S., and within all avoided waters of the U.S. on and immediately adjacent to the proposed project area. The compass angle and position of all photographs shall be similar to the pre-construction color photographs required in Regional Condition 1(c) and shall be identified on the plan-view drawing(s) required in subpart a of this Regional Condition.
- 9. For all activities requiring permittee responsible mitigation, the permittee shall develop and submit to the Corps for review and approval, a final comprehensive mitigation and monitoring plan for all permittee responsible mitigation prior to commencement of construction activities within waters of the U.S. The plan shall include the mitigation location and design drawings, vegetation plans, including target species to be planted, and final success criteria, presented in the format of the Sacramento District's Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004, and in compliance with the requirements of 33 CFR 332.
- 10.* The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.
- 11. The permittee is responsible for all authorized work and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of the permit authorization. The permittee shall ensure

that a copy of the permit authorization and associated drawings are available and visible for quick reference at the site until all construction activities are completed.

- 12. The permittee shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.) prior to commencement of construction activities within waters of the U.S. The permittee shall maintain such identification properly until construction is completed and the soils have been stabilized. The permittee is prohibited from any activity (e.g. equipment usage or materials storage) that impacts waters of the U.S. outside of the permit limits (as shown on the permit drawings).
- 13. For all activities in which a PCN is required, the permittee shall notify the appropriate district office of the start date for the authorized work within 10 days prior to initiation of construction activities.
- 14. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.
- 15. For all activities located in the Mather Core Recovery Area in Sacramento County, as identified in the U.S. Fish and Wildlife Service's *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* dated December 15, 2005, NWPs 14, 18, 23, 29, 39, 40, 42, 43 and 44 are revoked from use in vernal pools that may contain habitat for Federally-listed threatened and/or endangered vernal pool species.
- 16. For activities located in the Primary or Secondary Zone of the Legal Delta, NWPs 29 and 39 are revoked.
- 17. For all activities within the Secondary Zone of the Legal Delta, the permittee shall conduct compensatory mitigation for unavoidable impacts within the Secondary Zone of the Legal Delta.
- 18. For NWP 12: Permittees shall ensure the construction of utility lines does not result in the draining of any water of the U.S., including wetlands. This may be accomplished through the use of clay blocks, bentonite, or other suitable material (as approved by the Corps) to seal the trench. For utility line trenches, during construction, the permittee shall remove and stockpile, separately, the top 6 12 inches of topsoil. Following installation of the utility line(s), the permittee shall replace the stockpiled topsoil on top and seed the area with native vegetation. The permittee shall submit a PCN for utility line activities in the following circumstances:
- a. The utility line crossing would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs;
- b. The utility line activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S.;
- c. The utility line installation would include the construction of a temporary or permanent access road, substation or foundation within waters of the U.S.; or
- d. The proposed activity would not involve the restoration of all utility line trenches to pre-project contours and conditions within 30 days following completion of construction activities.
- 19. For NWP 13 and 14: All bank stabilization activities shall involve either the sole use of native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.), or a combination of hard-armoring (e.g. rip-rap) and native vegetation or bioengineered design

techniques, unless specifically determined to be impracticable by the Corps. The permittee shall submit a PCN for any bank stabilization activity that involves hard-armoring or the placement of any non-vegetated or non-bioengineered technique below the ordinary high water mark or, if tidal waters, the high tide line of waters of the U.S. The request to utilize non-vegetated techniques must include information on why the sole use of vegetated techniques is not practicable.

- 20. For NWP 23: The permittee shall submit a PCN for all activities proposed for this NWP, in accordance with General Condition 31 and Regional Condition 1. The PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with ESA, EFH and NHPA, in accordance with General Conditions 18 and 20 and Regional Condition 7.
- 21. For NWP 27: The permittee shall submit a PCN for aquatic habitat restoration, establishment, and enhancement activities in the following circumstances:
- a. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into perennial waters, intermittent waters, wetlands, mudflats, vegetated shallows, riffle and pool complexes, sanctuaries and refuges or coral reefs; or
- b. The restoration, establishment or enhancement activity would result in a discharge of dredged and/or fill material into greater than 100 linear feet of ephemeral waters of the U.S.
- 22. For NWPs 29 and 39: The channelization or relocation of intermittent or perennial drainages is not authorized, except when, as determined by the Corps, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.
- 23.* Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52, or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
- a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characteristics observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information;
- b. An analysis of the proposed impacts to the waterbody, in accordance with General Condition 31 and Regional Condition 1;
- c. Measures taken to avoid and minimize losses to waters of the U.S., including other methods of constructing the proposed activity(s); and
- d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be offset, in accordance with 33 CFR 332.
- 24. For NWPs 29, 39, 40, 42, and 43: The permittee shall establish and maintain upland vegetated buffers in perpetuity, unless specifically determined to be impracticable by the Corps, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 23(f). Except in unusual circumstances, as determined by the Corps, vegetated buffers shall be at least 50 feet in width.

- 25. For NWP 46: The discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless specifically waived in writing by the Corps.
- 26. All NWPs except 3, 6, 20, 27, 32, and 38 are revoked for activities in histosols, fens, bogs and peatlands and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, the permittee shall submit a PCN to the Corps in accordance with General Condition 31 and Regional Condition 1. This condition does not apply to NWPs 1, 2, 8, 9, 10, 11, 24, 28, 35 or 36, as these NWPs either apply to Section 10 only activities or do not authorize impacts to special aquatic sites.