Appendix H Wetland Delineation for the East-West Connector Project

Delineation of Wetlands and Other Waters for the East-West Connector Project

Prepared for:

T.Y. LIN International 1111 Broadway, Suite 2150 Oakland, CA 94607 Contact: Francis Lo 510/457-3030

Prepared by:

ICF Jones & Stokes 2841 Junction Avenue, Suite 114 San Jose, CA 95134-2122 Contact: Kate Giberson 408/434-2244

May 2008

ICF Jones & Stokes. 2008. Delineation of Wetlands and Other Waters for the East-West Connector Project. May. (ICF J&S 00703.07.) San Jose, CA. Prepared for: T.Y. LIN International.



8/14/08 320101- EAST/WEST Scanned copies to To Wo, F. Lo, DEPARTMENT OF THE ARMY Meethee, Moutood SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS 1455 MARKET STREET SAN FRANCISCO, CALIFORNIA 94103-1398

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Regulatory Division

AUG 1 4 2008

SUBJECT: File Number 2008-00012

T.Y. LIN-OAK

ACTA Project Controls Team Attn: Mr. Arthur Dao 1333 Broadway, Suite 300 Oakland, California 94612

Dear Mr. Dao:

This letter is written in response to your submittals of December 28, 2007, and June 6, 2008, requesting confirmation of the extent of Corps of Engineers' jurisdiction at the East-West Connector Project located between I-880 on the west and Mission Boulevard on the east within the cities of Fremont and Union City in Alameda County, California (see attached list of APNs).

Enclosed is a map showing the extent and location of Corps of Engineers' jurisdiction. We have based this jurisdictional delineation on the current conditions on the site as verified during a site visit performed by our staff on February 25, 2008. A change in those conditions may also change the extent of our jurisdiction. This jurisdictional delineation will expire in five years from the date of this letter. However, if there has been a change in circumstances that affects the extent of Corps jurisdiction, a revision may be completed before that date.

All proposed work and/or structures extending bayward or seaward of the line on shore reached by: (1) mean high water (MHW) in tidal waters, or (2) ordinary high water in non-tidal waters designated as navigable waters of the United States, must be authorized by the Corps of Engineers pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403). Additionally, all work and structures proposed in unfilled portions of the interior of diked areas below former MHW must also be authorized under Section 10 of the same statute.

All proposed discharges of dredged or fill material into waters of the United States must be authorized by the Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344). Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands.

Your proposed activity is within our jurisdiction and a permit will be required for your project. Application for Corps authorization should be made to this office using the application form available at our website (http://www.spn.usace.army.mil/regulatory/index.html). To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1 of the application. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements. You should note, in planning your project, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a Public Notice for a period of 30 days.

You are advised that the Corps has established an Administrative Appeal Process, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; March 28, 2000), and outlined in the enclosed flowchart and "Notification of Administrative Appeal Options, Process, and Request for Appeal" form (NAO-RFA). If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to the District Engineer for reconsideration or submit a completed NAO-RFA form to the Division Engineer to initiate the appeal process. You will relinquish all rights to appeal, unless the Corps receives new information or a completed NAO-RFA form within sixty (60) days of the date of the NAO-RFA.

Should you have any questions regarding this matter, please call Paula Gill of our Regulatory Division at 415-503-6776. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available online at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Dolut Smith

for Jane M. Hicks Chief, Regulatory Division

Enclosures

Copy Furnished (w/o enclosures): CA SWRCB, Sacramento, CA

Copy Furnished (with enclosures): CA RWQCB, Oakland, CA T.Y. Lin International, Attn: Mr. Tom Wintch, 1111 Broadway, Suite 2150, Oakland CA 94607 ICF, Attn: Ms. Kate Giberson, 2841 Junction Ave, Suite 114, San Jose, 95134



Memorandum

Subject:	East-West Connector Project – Errata to the Wetland Delineation Report (May 2008)
From:	Kate Giberson, EIR Project Manager
	Alex Hardy, Rob Preston – ICF Jones & Stokes
cc:	Tom Wintch, Francis Lo Wood – TYLIN International
To:	Paula Gill, U.S. Army Corps of Engineers
Date:	June 30, 2008

This memo lists the revisions that have been made to the Wetland Delineation Report (May 2008) to correct a typographical error on the impact acreage for the Line M Channel. Revisions are shown in strikeout-underline text with strikeout text (text) showing deletions and underline text (text) showing additions.

The estimated project impacts total 0.23 acres for the Line M Channel (not 0.14 acres), as determined in preparation of later drafts of the document. While the acreage was corrected in the Exhibit A figure of the May 2008 version of the report, the updated acreage was not corrected elsewhere in the text.

Please contact us if you have any questions (Kate: 408-434-2244, Alex: 415-296-0524, Rob: 916-737-3000).

Page ES-2, first complete paragraph

In summary, 10.14 acres of jurisdictional wetlands and <u>3.133.22</u> acres of jurisdictional other waters are located in the study area. A 2.85-acre detention basin in the study area is not subject to Corps jurisdiction.

Page 3-1, first paragraph

A total of 10.14 acres of potentially jurisdictional wetlands and <u>3.13–3.22</u> acres of potentially jurisdictional other waters are located in the study area. All wetlands and other waters mapped within the study area are directly or indirectly hydrologically connected to San Francisco Bay. The types of wetlands and other waters at each site are listed below and shown on Exhibit A in Appendix A. Descriptions of the different types of wetlands and other waters identified in the study area are provided below, and representative photographs are provided in Appendix D.

June 30, 2008 Page 2

Page 4-1, first paragraph under "Jurisdictional Information" heading

The results of our assessment indicate that $\frac{13.27}{13.36}$ acres of potential waters of the United States are located in the study area. Of this total, 10.14 acres are wetlands and $\frac{3.13}{3.22}$ acres are other waters. Table 2 summarizes the potential waters of the United States in the study area.

Page 4-2, Table 2

Jurisdictional Feature	Acreage	
Alameda Creek Flood Control Channel		
Wetlands	4.24	
Open Water	2.85	
Old Alameda Creek historic channel		
Wetlands	5.10	
Crandall Creek	0.14	
Line M Channel	<u>0.140.23</u>	
Detention Basin 2C	0.80	
Total	13.27 <u>13.36</u>	

Table 2. Summary of Jurisdictional Waters of the United States in the Study Area

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Acronyms and Abbreviations

1987 Manual	U.S. Army Corps of Engineers Wetlands Delineation Manual
Arid West Supplement	Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region
BART	Bay Area Rapid Transit District
CFR	Code of Federal Regulations
CWA	Clean Water Act
GPS	global positioning system
I-880	Interstate 880
JD	jurisdictional determination
OHWM	ordinary high-water mark
RPWs	relatively permanent waters
SR 238	State Route 238
TNW	traditional navigable waterway
USACE	U.S. Army Corps of Engineers

Executive Summary

This report presents the results of a delineation of wetlands and other waters conducted for the proposed East-West Connector between State Route 238 (SR 238) and Interstate 880 (I-880), which occurs mostly within urban areas of the cities of Fremont and Union City, Alameda County, California. The delineation area encompasses approximately 195.5 acres.

Fieldwork for the delineation was conducted by Jones & Stokes wetland specialists and soil scientists on October 9 and 10, 2007, using the routine on-site determination method described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987) and, where applicable, in accordance with methods identified in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Supplement) (U.S. Army Corps of Engineers 2006). Other waters of the United States were mapped and delineated in the field in accordance with the guidelines in U.S. Army Corps of Engineers Regulatory Guidance Letter No. 05-05, dated December 7, 2005.

This report provides a summary of the wetlands and other waters that would likely be subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). A draft jurisdictional determination (JD) form was completed using the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*, dated May 30, 2007 (U.S. Army Corps of Engineers 2007).

The field delineation determined that no traditional navigable waters are located in the study area. Three relatively permanent waters¹ (RPWs) including Alameda Creek Flood Control Channel, Crandall Creek, and the Line M Channel; one wetland directly abutting Alameda Creek Flood Control Channel (a RPW in the study area); and one wetland adjacent to, but not directly abutting, the historic channel of Old Alameda Creek (a RPW in the study area).

A description of the wetlands and other water features delineated in the study area is provided in Section 3, *Results*, of this report, and their locations are depicted in the figures in Appendix A. The jurisdictional status of each feature in the study area is discussed in Section 4, *Jurisdictional Assessment*, of this report. All wetland boundaries and jurisdictional determinations presented in this report were field inspected by Paula Gill, USACE, San Francisco District, on February 25, 2008. At the request of Ms. Gill, additional field work to

¹ RPWs are defined as waters that flow year-round or have continuous flow at least seasonally (typically 3 months).

characterize the wetlands in the detention basins adjacent to Line M Channel was performed on March 18, 2008.

In summary, 10.14 acres of jurisdictional wetlands and 3.13 acres of jurisdictional other waters are located in the study area. A 2.85-acre detention basin in the study area is not subject to Corps jurisdiction.

Section 1 Introduction and Site Description

Introduction

This report presents the results of the Jones & Stokes delineation of waters of the United States, including wetlands, for the proposed East-West Connector between State Route 238 (SR 238) and Interstate 880 (I-880), which occurs mostly within urban areas of the cities of Fremont and Union City, Alameda County, California.

This report is organized as shown below.

- Section 1, *Introduction and Site Description*, presents a brief introduction of the project and summarizes the vegetation, geology, soils, and hydrology of the study area.
- Section 2, *Delineation Methods*, describes field delineation methods.
- Section 3, *Results*, presents the results of the wetland delineation.
- Section 4, *Jurisdictional Assessment*, presents a preliminary jurisdictional overview.
- Section 5, *References*, lists the references cited in the text.
- Section 6, *Preparers*, lists the persons who conducted the wetland delineation surveys and/or prepared the report.
- Appendix A, *Wetland Delineation Map*, presents a graphic depiction of the results of the wetland delineation.
- Appendix B, *Plants Observed in the Delineation Study Area*, lists all plant species documented during the field survey.
- Appendix C, *Wetland Determination Forms*, contains the forms on which data points were documented.
- Appendix D, *Representative Site Photographs*.

Project Description

The East West Connector Project is located within the cities of Fremont and Union City in southern Alameda County, California. The proposed project would provide a connection between I-880 on the west and Mission Boulevard (SR 238) on the east (Figure 1). This connection would be accomplished through a combination of constructing a new roadway segment and widening two existing roadways. The entire project alignment would be approximately 2.6 miles long.

The project location is on the Newark 7.5-minute quadrangle in an unsurveyed section of Township 4 South, Range 1 West (formerly the Potrero de los Cerritos and Arroyo de la Alameda land grants). The geographic coordinates of the site are 37.57512° N, 122.01831° W.

Site Description

The study area for this wetland delineation consisted of the area encompassed by the limits of ground disturbance for the proposed project (see Appendix A). The delineation study area encompasses approximately 195.5 acres.

Vegetation

Most of the study area consists of residential or commercial development, much of which is hardscape, including buildings, parking lots, driveways, and sidewalks. The native vegetation has been replaced with grass lawns and ornamental plantings. Vegetation along the historic channel of Old Alameda Creek consists of willow scrub on the banks and herbaceous wetlands on the channel bottom. Herbaceous wetlands are also present along Alameda Creek Flood Control Channel and Line M Channel that is tributary to Alameda Creek Flood Control Channel. A list of plant species observed in the study area, including the scientific name and wetland indicator status (Reed 1988) of each species, is provided in Appendix B.

Urban Landscaping

Urban landscaping consists of shade and street trees, hedges and shrubs, and lawns and gardens. Most of these species are nonnative perennials, such as blue gum (*Eucalyptus globulus*) and Canary Island pine (*Pinus canariensis*), although some natives are included, such as California redwood (*Sequoia sempervirens*). Also included in this vegetation type are ruderal (disturbance-adapted) species that occur in disturbed areas adjacent to the paved and landscaped areas.

Willow Scrub

Willow scrub is a woody riparian plant community that occurs at and above the ordinary high-water mark (OHWM) along the historic channel of Old Alameda Creek. The dominant canopy species are arroyo willow (*Salix lasiolepis*) and sandbar willow (*Salix exigua*). Other common canopy species include blue elderberry (*Sambucus mexicanus*), red willow (*Salix laevigata*), and northern

ICFJ&S 00703.07





Figure 1 Project Location

California black walnut (*Juglans hindsii*). The understory, typically, is dense and dominated by Himalaya blackberry (*Rubus armeniacus*). Where canopy openings occur, the understory consists of annual grassland, characterized by nonnative annual grasses in association with native and nonnative forbs.

Herbaceous Wetland

Herbaceous wetlands are present in the historic channel of Old Alameda Creek, along Alameda Creek Flood Control Channel, and along Line M Channel. The vegetation is dominated by emergent hydrophytes, but ruderal species are also present. The distribution of species is heterogeneous, with patches dominated by hardstem bulrush (*Scirpus acutus*), cattails (*Typha angustifolia, T. latifolia*), swamp timothy (*Crypsis schoenoides*), common cocklebur (*Xanthium strumarium*), smartweed (*Polygonum amphibium, P. punctatum*), jointgrass (*Paspalum dilatatum*), and bentgrass (*Agrostis* sp.).

Geology and Soils

Geology

The geology of the study area is mapped as Quaternary ($\leq 10,000$ -year-old) sediments. These sediments include consolidated and semi-consolidated alluvium, lake, playa, and terrace deposits. They are mostly nonmarine, but the area does include marine deposits near the coast (Jennings 1977).

Soils

In terms of general soil map units, the entire study area has been mapped as the Sycamore-Yolo unit, characterized by nearly level well-drained and poorly drained silt loams on floodplains and alluvial fans.

Several detailed soil map units are present in the study area. Figure 2 shows these detailed soil map units; Table 1 provides additional information on the characteristics of each soil map unit.

Soil Map Unit Number	Soil Map Unit Name	Dominant Soil Texture	Restrictive Layer	Depth to Restrictive Layer (inches)	Drainage Class	Hydric Criteria
107	Clear Lake clay, 0%– 2% slopes, drained	Clay	Water table	36–60	Poorly drained	2B3, 4
111	Danville silty clay loam, 0%–2% slopes	Silty clay loam	Water table	> 80	Well drained	2B3
112	Danville silty clay loam, 2%–9% slopes	Silty clay loam	Water table	> 80	Well drained	_
DaB	Danville silty clay loam, 3%–10% slopes	Silty clay loam	Water table	> 80	Well drained	_
131	Omni silty clay loam, drained	Clay	Water table	60–72	Poorly drained	2B3
135	Pits, gravel	NA	-	_	_	_
143	Sycamore silt loam, drained	Silt loam	Water table	> 80	Poorly drained	2B3
161	Yolo silt loam, 0%– 2% slopes	Silt loam	Water table	> 80	Well drained	2B3
162	Water	NA	_	_	_	_

Table 1. Soils in Study Area

Explanation of hydric criteria codes:

1. All Histels, except for Folistels, and Histosols, except for Folists.

2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that

A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or

- B. are poorly drained or very poorly drained and have either
 - 1. a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2. a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6 inches/hour in all layers within a depth of 20 inches, or
 - 3. a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 inches/hour in any layer within a depth of 20 inches.
- 3. Soils that are frequently ponded for a long or very long duration during the growing season.

4. Soils that are frequently flooded for a long or very long duration during the growing season.

Sources: U.S. Department of Agriculture 2007a, 2007b.

Hydrology

The study area is located in the Alameda Creek watershed, and the project is located in the San Francisco Bay hydrologic unit (HUC 18050004). The Alameda Creek Flood Control Channel is the dominant hydrological feature in the study area. Old Alameda Creek is a portion of the ancestral stream channel that no longer experiences stream flow. The historic channel of Old Alameda Creek receives a relatively small amount of localized drainage from the area bounded by Alvarado-Niles Road, Rock Avenue and the BART tracks via flood control facility Line N-12, which is made up of a series of pipes and culverts. In addition, the historic channel of Old Alameda Creek is available to provide overflow drainage for the Quarry Lakes (outside the study area) via a 36-inch culvert during heavy storm events. However, according to the East Bay Regional Park District staff that operate the Lakes, there has never been an overflow from the Lakes into Old Alameda Creek.

Crandall Creek is a native stream that has been channelized outside the study area; within the study area, it is culverted below ground but reemerges above ground outside the study area. In addition, there is a channelized stream called the Line M Channel that drains the hills east of the study area and flows into the Alameda Creek Flood Control Channel.

The nearest traditional navigable waterway (TNW) to the study area is Alameda Creek Flood Control Channel, located at the extent of the 100-year high tide, which is 2.2 river miles (1.6 linear miles) downstream from the study area.² Where the Alameda Creek becomes tidal, it is renamed Coyote Hills Slough, part of San Francisco Bay. From the study area, Old Alameda Creek flows approximately 0.5 mile into the Alameda Creek Flood Control Channel. Both Crandall Creek and the Line M Channel flow approximately 1.5 miles into Coyote Hills Slough/Alameda Creek Flood Control Channel via underground storm sewers and aboveground channels.

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² For the purposes of this report, TNWs are those navigable waterways defined by the U.S. Army Corps of Engineers, (33CFR 329.12), at http://www.usace.army.mil/cw/cecwo/reg/33cfr329.htm. Accessed: November 8, 2007.



Yolo sili loem, 0 to 2 percent s	Beological Sector Secto	- 131 Omni silty clay loam, drai	ned		
			Soil Type	Acres in Project Area	Percent o Project Are
Ompletity day loop defined	Weiter		107 Clear Lake clay, 0 to 2 percent slopes, drained	19.5	10.0
			111 Danville silty clay loam, 0 to 2 percent slopes	1.6	0.8
			112 Danville silty clay loam, 2 to 9 percent slopes	7.8	4.0
		Provide Company Products of the PUTT	DaB Danville silty clay loam, 3 to 10 percent slopes	3.8	1.9
		12:20	131 Omni silty clay loam, drained	1.3	0.7
		D. S. Constanting of the S. S.	135 Pits, gravel	13.0	6.6
-880			143 Sycamore silt loam, drained	22.1	11.3
		ALL SADDED TO ALL SALES	161 Yolo silt loam, 0 to 2 percent slopes	117.1	59.9
			162 Water	9.2	4.7
		CARRY SPACEMENTS	A CARLES AND STOTED STOLEN AND STOLEN AND STOLEN	DA REAL	- CLUDIN

Project Limits

0 250 500 750 1,000 Feet └────

1 inch equals 500 feet

Soils Type Boundary (NRCS SSURGO soils)

I-238/880 **East-West Connector**

Percent of Project Area

Figure 2

SOILS



Section 2 Delineation Methods

Fieldwork for the delineation took place over 2 days, October 9 and 10, 2007. The delineation was conducted by Jones & Stokes wetland specialists (botanist, soil scientist) using the routine on-site determination method described in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987) and, where applicable, in accordance with the methods identified in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Arid West Region* (Arid West Supplement) (U.S. Army Corps of Engineers 2006). Other waters of the United States were mapped and delineated in the field in accordance with U.S. Army Corps of Engineers Regulatory Guidance Letter No. 05-05, dated December 7, 2005.

As detailed in the Arid West Supplement, data on vegetation, soil, and hydrology characteristics, which were used as the basis for wetland boundary determinations, were collected and recorded on Arid West Supplement data forms³ (Appendix C). The boundaries of nontidal, nonwetland waters (i.e., tributaries and relatively permanent waters [RPWs]) were delineated at the OHWM as defined in 33 Code of Federal Regulations (CFR) 328.3. The OHWM represents the limit of potential U.S. Army Corps of Engineers (USACE) jurisdiction over nontidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (33 CFR 328.04).

A Trimble GeoXT global positioning system (GPS) unit, typically accurate to less than 1 horizontal meter, was used to record the location of jurisdictional boundaries, data points, and other pertinent features (such as culvert locations) wherever possible. Where satellite reception was poor (such as under a dense tree canopy or in very steep terrain), aerial photograph interpretation was used to supplement the GPS data. The GPS data were downloaded and superimposed onto recent color orthorectified aerial photographs and edited as necessary to generate the delineation maps for the study area.

Following the field delineation, water bodies and wetland features in the study area were assigned to one of three types of potential waters of the United States based on the standards presented in the *Rapanos* decision⁴ (see Section 4,

³ Arid West Supplement Data Form, version 11-1-2006.

⁴ In 2006, the Supreme Court addressed the jurisdictional scope of Section 404 of the CWA, specifically the term "waters of the United States," in *Rapanos v. U.S.* and in *Carabell v. U.S.* (hereafter referred to as *Rapanos*). The Rapanos decision provides two new analytical standards for determining whether water bodies that are not TNWs, including wetlands adjacent to those non-TNWs, are subject to CWA jurisdiction: (1) if the water body is relatively permanent, or if the water body is a wetland that directly abuts a relatively permanent water body, or (2) if a water

Preliminary Jurisdictional Determination) and mapped accordingly. A wetlands verification visit was conducted with Paula Gill, USACE, San Francisco District, on February 25, 2008. At the request of Ms. Gill, additional field work to characterize the wetlands in the detention basins adjacent to the Line M Channel was performed on March 18, 2008. Methods used to delineate these wetlands were the same as described above.

body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. As a result of this decision, the U.S. Environmental Protection Agency (EPA) and USACE developed guidance requiring the application of the two standards described above, as well as a greater level of documentation, to support an agency JD for a particular water body.

Section 3 Results

Wetlands

A total of 10.14 acres of potentially jurisdictional wetlands and 3.13 acres of potentially jurisdictional other waters are located in the study area. All wetlands and other waters mapped within the study area are directly or indirectly hydrologically connected to San Francisco Bay. The types of wetlands and other waters at each site are listed below and shown on Exhibit A in Appendix A. Descriptions of the different types of wetlands and other waters identified in the study area are provided below, and representative photographs are provided in Appendix D.

Seasonal Wetland

A seasonal herbaceous wetland is located in the historic channel of Old Alameda Creek. A paired set of representative data points was selected for this wetland, including one wetland point and one upland point. The vegetation is dominated by hydrophytes, and the hydrology appears to be seasonal and intermittent. The channel receives hydrologic inputs from precipitation, runoff, and a small area of localized drainage via Line N-12. At the time of the survey, one short section of the channel was inundated at the time of the survey, but most of the channel was dry.

Because of the urban nature of the surrounding area, this wetland has the potential to provide significant water quality and wildlife habitat functions. Wildlife may use the wetland for nesting and foraging, and the channel provides a migration corridor through the area. The wetland supports water quality functions, trapping sediment and removing nutrients or toxicants, and the channel provides appreciable surface water storage. The wetland affords scenic value for local residents because it provides a natural open space in an otherwise highly developed landscape. However, because of the surrounding urban influence, the wetland has been adversely affected by trash dumping, unauthorized camping, and invasive exotic plants.

A seasonal wetland is also present along the Alameda Creek Flood Control Channel. The wetland was classified as seasonal because the vegetated portion of the channel lies between the OHWM and the normal low-flow channel. The vegetation is dominated by hydrophytes, similar to that found in the historic channel of Old Alameda Creek. However, the hydrology is dependent primarily on seasonal flooding rather than rainfall. The wetland functions provided are similar to those listed above for the Alameda Creek Flood Control Channel, but this wetland also provides storage capacity for floodwater.

Other Waters

Perennial Drainage

Alameda Creek Flood Control Channel

The Alameda Creek Flood Control Channel is the major hydrologic feature in the study area. The trapezoid-shaped channel, which drains the entire study area, is characterized by a mild gradient and somewhat dense herbaceous vegetation along the banks. Flowing water along the entire reach of the channelized stream was observed in the study area on October 9 and 10, 2007, indicating that it is a RPW.

Crandall Creek

Crandall Creek is the second-most dominant hydrologic feature in the study area, draining the southeastern corner of the study area and flowing into Coyote Hills Slough outside the study area. Within the study area, it is routed underground; the aboveground portion of Crandall Creek is just outside the study area on both sides. Standing water was observed along most of its reach in the study area on October 9 and 10, 2007, indicating that it is a RPW.

Line M Channel

The Line M Channel, a man-made drainage feature that replaced a natural drainage feature, is classified as a RPW in the study area. The stream, which has been channelized through the study area, starts in the hills to the north and east. Standing water was observed along its entire reach in the study area on October 9 and 10, 2007, indicating that it is a RPW.

Detention Basins

Basin 2C

Basin 2C was created in October, 1999 (Wolfe pers. comm.). It was constructed in uplands adjacent to Line M Channel to serve as a stormwater detention basin for the Park Ridge Phase II and III residential development project and to compensate for the loss of 0.276 acres of seasonal wetlands that were filled in and adjacent to creeks on the project site. The source of water for the basin appears to be stormwater runoff from the adjacent residential areas. Should the basin fill, overflow would enter the Line M Channel via a lower section of the berm along the channel.

Nine data were established to characterize the vegetation, soils, and hydrology of Basin 2C (Appendix C). The vegetation is dominated by grasses and annual and perennial forbs and is a mosaic of areas dominated by hydrophytic species and areas dominated by upland species. The soils are clay to clay loam. The upper horizon has with a matrix value of 3 and a chroma of 1 or 2. Where hydrophytic vegetation is present, the matrix value of the lower horizons is 4. However, distinct or prominent redox concentrations were not noted. Portions of the detention were observed to be inundated during the February 25, 2008 verification visit. No inundation was observed on March 18, 2008, although the soils were moist. However, evidence of wetland hydrology included matted vegetation and etiolation and yellowing of the grasses where the water has been standing.

The areas with hydrophytic vegetation were delineated as wetlands based on the vegetation and evidence of wetland hydrology. Because the wetlands were recently created, they may not have been in place long enough to develop hydric soil conditions, although the lower matrix value indicates that the depletion of matrix has started.

New Basin

The detention basin located between Green Street and the Bay Area Rapid Transit District (BART) tracks was constructed in 2006 to serve as stormwater detention for the KB Homes development just south of the recently constructed Green Street bridge. The basin was constructed in uplands on the site of a former iron works (see photo 20080313124224, May 6, 1975). In addition to receiving stormwater from adjacent developments, water is drained into the basin from the Line M Channel and is pumped back into the Line M Channel.

On October 9, 2007, the basin was dry and unvegetated. On February 25, 2008, the basin was inundated more than six feet deep. It was still inundated about six feet deep on March 18, 2008.

Section 4 Jurisdictional Assessment

Waters of the United States

This jurisdictional assessment has been prepared in keeping with guidance in the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (U.S. Army Corps of Engineers 2007). The information presented in this section had been provided to assist the USACE to make the jurisdictional determination.

As detailed in the jurisdictional determination (JD) guidebook, the types of waters listed below, which were identified in the study area, are considered waters of the United States.

- Alameda Creek Flood Control Channel
- Line M Channel
- Crandall Creek
- wetland fringe of Alameda Creek Flood Control Channel
- historic channel of Old Alameda Creek
- Detention Basin 2C

Jurisdictional Information

The results of our assessment indicate that 13.27 acres of potential waters of the United States are located in the study area. Of this total, 10.14 acres are wetlands and 3.13 acres are other waters. Table 2 summarizes the potential waters of the United States in the study area.

Jurisdictional Feature	Acreage		
Alameda Creek Flood Control Channel			
Wetlands	4.24		
Open Water	2.85		
Old Alameda Creek historic channel			
Wetlands	5.10		
Crandall Creek	0.14		
Line M Channel	0.14		
Detention Basin 2C	0.80		
Total	13.27		

Table 2. Summary of Jurisdictional Waters of the United States

 in the Study Area

In terms of Other Waters, this section describes the characteristics of non-TNW's that flow directly or indirectly into a TNW. There are three non-TNW's that flow directly or indirectly into a TNW: Alameda Creek Flood Control Channel, the Line M Channel, and Crandall Creek. These waters are considered RPW's. The watershed size of Alameda Creek is approximately 695 square miles.

Alameda Creek Flood Control Channel

The Alameda Creek Flood Control Channel is a non-TNW that flows directly into a TNW. From the project area, the closest TNW is approximately 1.6 linear miles and 2.2 river miles away. Alameda Creek Flood Control Channel becomes navigable at the extent of the tidal influence, at which point the waterway is renamed as Coyote Hills Slough and is considered a part of San Francisco Bay. The flow route to the closest TNW is as follows: Alameda Creek Flood Control Channel (aka Coyote Hills Slough at 100-year high-tide line and below) flows into San Francisco Bay. Since the Alameda Creek Flood Control Channel is considered a RPW, the project waters are ≤ 1 mile from a RPW.

The Alameda Creek Flood Control Channel has been manipulated (man altered) because the naturally occurring Alameda Creek has been channelized and rerouted. Properties of the tributary, with respect to top of bank are a width of approximately 100 feet across, 5 feet depth and a 3:1 side slope ratio. The primary substrates include silt, sand and gravel. The Flood Control Channel is approximately 50% vegetated (on both sides of the creek) with mostly hydrophytic vegetation. The condition of the tributary is very stable because there is abundant vegetation lining the banks on both sides.

The geometry of the tributary is relatively straight, and the gradient is shallow, with a slope of 0-1 percent. There were riffle and pool complexes observed within the study area. This tributary provides naturally seasonal flow with year

round inputs from urban runoff, with an estimated average number of flow events between 2 and 5 events per year. Surface flow is confined because the tributary has been channelized. This tributary has a well defined bed and bank and an OHWM defined by a clear, natural line impressed on the bank, vegetation matted down, bent, or absent, sediment deposition, the presence of litter and debris and an abrupt change in plant community.

In terms of chemical characteristics, the water was cloudy brown in color, presumably from sediment. In terms of biological and physical characteristics, this tributary has a wetland fringe, adjacent to a RPW, characterized by an herbaceous seasonal wetland. The area of this Waters of the United States is approximately 7.1 acres and the quality seems to be intact.

Line M Channel

The Line M Channel is a non-TNW that flows indirectly into a TNW. The Line M Channel flows into the Alameda Creek Flood Control Channel approximately two river miles upstream from the 100-year high tide line. Water from Line M Channel flows through two tributaries before entering a TNW. Since the Line M Channel is considered a RPW, the project waters are ≤ 1 mile from a RPW.

The Line M Channel has been manipulated (man altered) because the naturally occurring creek has been channelized and rerouted. Properties of the tributary, with respect to top of bank are a width of approximately 8 feet across, 2 feet depth and a 2:1 side slope ratio. The primary substrates include silt and sand. The Line M Channel is 100% vegetated (on both sides of the creek) with mostly upland vegetation. The condition of the tributary is very stable because there is abundant vegetation lining the banks on both sides.

The geometry of the tributary is relatively straight, and the gradient is shallow, with a slope of 0–1 percent. There were no riffle and pool complexes observed within the study area. This tributary provides naturally seasonal flow with year round inputs from urban runoff, with an estimated average number of flow events between 2 and 5 events per year. Surface flow is confined because the tributary has been channelized. This tributary has a well defined bed and bank and an OHWM defined by a clear, natural line impressed on the bank, vegetation matted down, bent, or absent, the presence of litter and debris and an abrupt change in plant community.

In terms of chemical characteristics, the water was cloudy brown in color, presumably from sediment. The area of this water of the United States is approximately 0.22 acres and the quality seems to be intact.

Crandall Creek

Crandall Creek is a non-TNW that flows indirectly into a TNW. Crandall Creek flows into the Alameda Creek Flood Control Channel approximately 1.5 river

miles upstream from the 100-year high tide line. Water from Line M Channel flows through two tributaries before entering a TNW. Since Crandall Creek is considered a RPW, the project waters are ≤ 1 mile from a RPW.

In terms of tributary characteristics, Crandall Creek has been manipulated (man altered) because the naturally occurring creek has been channelized and rerouted. Properties of the tributary, with respect to top of bank are a width of approximately 8 feet across, 1–2 inch depth and a 1:1 side slope ratio. The primary substrate is concrete. Crandall Creek is 100% non-vegetated (within the study area). The condition of the tributary is very stable because the creek has been channelized.

The geometry of the tributary is relatively straight, and the gradient is shallow, with a slope of 0–1 percent. There were no riffle and pool complexes observed within the study area. This tributary provides naturally seasonal flow with year round inputs from urban runoff, with an estimated average number of flow events between 2 and 5 events per year. Surface flow is confined because the tributary has been channelized. This tributary has a well-defined bed and bank and an OHWM defined by a clear, natural line impressed on the concrete bank.

In terms of chemical characteristics, the water was cloudy brown in color, presumably from sediment. The area of this Waters of the United States is approximately 0.14 acres and the quality seems to be intact.

Wetlands

Three areas of wetlands were delineated. Contained within the OHWM of the Alameda Creek Flood Control Channel are 4.24 acres of wetlands adjacent to a RPW. This is a riverine fringe of herbaceous seasonal wetland along both banks of the Alameda Creek Flood Control Channel. The flow relationship with the RPW is intermittent because when the water level in the Alameda Creek Flood Control Channel drops, the wetland receives no hydrological input. Surface flow of wetland is confined because when channel has low flow, wetland has no surface flow. This wetland is approximately1.6 linear miles and 2.2 river miles to the nearest TNW: Coyote Hills Slough. The flow is from wetland to waters and the approximate location of the wetlands is within the 2-year or less floodplain.

Contained within the historic channel of Old Alameda Creek are 5.1 acres of seasonal, herbaceous wetlands which are adjacent to, but not directly abutting, a RPW (the Alameda Creek Flood Control Channel), which is connected by flow-controlled culverts to the Old Alameda Creek. The flow relationship with the RPW is uncertain or intermittent because flows to Alameda Creek Flood Control Channel (and from the nearby Quarry Lakes) have not been known to occur according to Alameda Flood Control District staff and East Bay Regional Park District staff. However, the historic channel of Old Alameda Creek does receive hydrologic inputs from precipitation, runoff, and a small area of localized drainage via Line N-12. Surface flow of the wetland is confined within the historic channel of Old Alameda Creek. This wetland is approximately1.6 linear

miles and 2.2 river miles to the nearest TNW (Coyote Hills Slough). The flow is from wetland to waters, and the approximate location of the wetlands is within the 20–50 year floodplain. Basin 2C contains 0.80 acres of wetlands that are adjacent to Line M Channel, which is a non-TNW that flows indirectly into a TNW.

Non-Jurisdictional Features

The New Basin (2.85 acres) was excavated in uplands and serves for stormwater detention. It is separated from Basin 2C and Line M Channel by the railroad grade and is not connected physically or hydrologically with any water of the United States, although water can be transferred from Line M Channel into the basin and from the basin to Line M. Therefore, the New Basin is not subject to jurisdiction under Section 404.

ICFJ&S 00703.07
Section 5 References

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Personal Communication

Wolfe, Bruce H. Chief, Watershed Management Division, California Regional Water Quality Control Board. Conditional waiver of waste discharge requirements and water quality certification for the Park Ridge Phase II and III Residential Development Project, City of Union City, Alameda County. Letter to Judy Bendix, Sycamore Associates. Undated.

ICFJ&S 00703.07

Section 6 Preparers

The following persons conducted the wetland delineation surveys and/or prepared this report.

Chris Voigt	Soil scientist
Rob Preston	Botanist
Paul Glendening	GIS specialist
John Mathias	Editor
Carol-Anne Hicks	Publication

Appendix A Wetland Delineation Maps





Appendix B Plants Observed in the Delineation Study Area

Scientific Name	Common Name	Habitat*	Status
Acer negundo	box elder	scr	FACW
Agrostis sp.	bentgrass	wetl	
Alisma plantago-aquatica	water plantain	wetl	OBL
Amaranthus sp.	amaranth	gr	
Artemisia biennis	biennial wormwood	wetl	FAC
Artemisia douglasiana	mugwort	scr, gr	FACW
Arundo donax	giant reed	scr	FACW
Aster subulatus	annual saltmarsh aster	wetl	FACW
Atriplex triangularis	fat hen	gr	FACW
Avena fatua	wild oats	gr	UPL
Baccharis pilularis	coyote brush	scr	UPL
Beta vulgaris	common beet	gr	FACU
Bidens frondosa	beggar-ticks	wetl	FACW
Bromus diandrus	ripgut brome	gr	UPL
Bromus hordeaceus	soft chess	gr	FACU
Callistemon sp.	bottlebrush tree	cult	UPL
Chenopodium ambrodioides	Mexican tea	wetl	FAC
Cirsium vulgare	bull thistle	gr	FACU
Conium maculatum	poison hemlock	scr, gr	FACW
Convolvulus arvensis	field bindweed	gr	UPL
Conyza bonariensis	South American horseweed	wetl, gr	UPL
Conyza canadensis	Canada horseweed	wetl	UPL
Cortaderia selloana	pampas grass	scr	UPL
Cotoneaster pannosa	silverleaf cotoneaster	scr	UPL
Crypsis schoenoides	swamp timothy	wetl	OBL
Cynodon dactylon	Bermudagrass	wetl	FAC
Cyperus eragrostis	umbrella sedge	wetl	FACW
Dittrichia graveolens	stinkweed	wetl	UPL
Eleocharis sp.	spikerush	wetl	OBL
Epilobium brachycarpum	panicled willow-herb	gr	UPL
Epilobium ciliatum	hairy willow-herb	wetl	FACW
Eschscholzia californica	California poppy	gr	UPL
Eucalyptus camaldulensis	red gum	cult	UPL
Eucalyptus globulus	blue gum	cult	UPL
Euphorbia lathyris	gopher plant	wetl	UPL
Euthamia occidentalis	western goldenrod	wetl	OBL
Gnaphalium luteo-album	weedy cudweed	wetl	FACW
Hedera helix	English ivy	scr	UPL

Scientific Name	Common Name	Habitat*	Status
Heliotropium curassavicum	salt heliotrope	wetl, gr	OBL
Hirschfeldia incana	Mediterranean mustard	gr	UPL
Hordeum marinum	Mediterranean barley	gr	FAC
Juglans hindsii	Northern California black walnut	scr	FAC
Kickxia elatine	sharp-leaved fluellin	gr	NI
Lactuca serriola	prickly lettuce	wetl, gr	FAC
Lepidium latifolium	perennial peppercress	gr	FACW
Lolium multiflorum	Italian ryegrass	gr, wetl	FAC
Lotus corniculatus	bird's-foot trefoil	gr	FAC
Lythrum hyssopifolium	hyssop loosestrife	wetl	FACW
Mahonia sp.	barberry	cult	
Malva sp.	cheeseweed	gr	UPL
Melilotus alba	white sweet-clover	wetl	FACU
Nasturtium officinale	watercress	wetl	OBL
Nicotiana glauca	tree tobacco	scr	FAC
Paspalum distichum	jointgrass	wetl	OBL
Phalaris aquatica	Harding grass	wetl	FAC
Phalaris paradoxa	paradox canary grass	gr	UPL
Phyla nodiflora	common frog-fruit	wetl	FACW
Picris echioiodes	bristly ox-tongue	wetl, gr	FAC
Pinus canariensis	Canary Islands pine	cult	UPL
Piptatherum miliaceum	smilo grass	wetl, gr	UPL
Plantago major	English plantain	wetl	FACW
Polygonum amphibium	water smartweed	wetl	OBL
Polygonum lapathifolium	willow-weed	wetl	OBL
Polygonum punctatum	dotted smartweed	wetl	OBL
Polypogon monspeliensis	annual rabbit's-foot grass	wetl	FACW
Populus balsamifera subsp. trichocarpa	black cottonwood	scr	FACW
Quercus sp.	oak	cult	UPL
Raphanus sativus	wild radish	gr	UPL
Rhamnus californica	California coffeeberry	scr	UPL
Rorippa curvisiliqua	curve-pod yellowcress	wetl	OBL
Rosa californica	California wild rose	scr	FAC
Rubus armeniacus	Himalaya blackberry	scr	FAC
Rubus ursinus	California blackberry	scr	FACW
Rumex conglomeratus	whorled dock	wetl	FACW
Rumex crispus	curley dock	wetl, gr	FACW
Salix exigua	narrow-leaved willow	scr	OBL

Scientific Name	Common Name	Habitat*	Status
Salix laevigata	red willow	scr	FACW
Salix lasiolepis	arroyo willow	scr	FACW
Sambucus mexicanus	blue elderberry	scr	FAC
Scirpus acutus	hardstem bulrush	wetl	OBL
Sequoia sempervirens	California redwood	cult	UPL
Silybum marianum	milk thistle	gr	UPL
Solanum americanum	black nightshade	wetl	FAC
Tragopogon sp.	salsify	gr	UPL
Trifolium hirtum	rose clover	gr	UPL
Typha angustifolia	narrow-leaved cattail	wetl	OBL
Typha latifolia	broad-leaved cattail	wetl	OBL
Verbascum thapsus	common mullein	gr	UPL
Vicia sativa	common vetch	gr	FACU
Xanthium strumarium	common cocklebur	wetl	FAC

**Habitat: wetl = herbaceous wetland; gr = annual grassland; cult = urban landscaping;*

scr = *willow scrub*

Appendix C Wetland Determination Forms

WETLAND DETERMINATION FORM - Arid West Region

Project/Site:	East-West Connector							City/Count	y: Unio	n City, CA		Data Point:	Dp1	
Applicant/Owner:		Ty-Lin State: CA Date: 9									9/9/2007			
Investigator(s):	igator(s): Voigt, Rob Preston Section, Township, Range: T4S, R1W, unsurve										veyed section	on		
Landform (hillslop	be, te	rrace,	etc.):	Ripa	arian channe		Loca	- cal relief (concave, convex, none): concave					Slope (%):	none
Subregion (LRR):				LRR C			Lat:		Long	g:			Datum:	
Soil Map Unit Nar	ne:	Yol	o Silt L	oam							NWI cl	assification:		
Are climatic / hydr	rolog	ic cond	ditions c	on the site typic	al for this time	e of year	?	Yes	Х	No		(If no, expla	ain in Rema	rks)
Are Vegetation	no	Soil	no	or Hydrology	no	significa	nly d	isturbed?	Are "Nor	mal Circums	stances"	present?	✓ YES	ОИ
Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks)														
SUMMARY C	SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.													

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

VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (scientific names) woody plants >3" dbh	% Cover	Species?	Status	
1.				Number of Dominant Species
2.				That are OBL, FACW, or FAC: <u>3</u> (A)
3.				-
4.				Total Number of Dominant
Total Cover:				Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (woody plants <3"dbh)				
1.				Percent of Dominant Species
2.				that are OBL, FACW, or FAC <u>100%</u> (A/B
3.				
4.				Prevalence index worksheet
5.				Total % Cover of: Multiply by:
Total Cover:				OBL speciesx 1 =
Herb Stratum (non-woody plants, regardless of siz	<u>e)</u>			FACW species <u> </u>
1. Typha angustifolia	20%	Y	OBL	FAC speciesx 3 =
2. Xanthium strumarium	30%	Y	FAC	FACU speciesx 4 =
3. Polygonum amphibium	20%	Y	OBL	UPL speciesx 5 =
4. Scirpus acutus	10%	N	OBL	Column Total: <u>0</u> (A) <u>0</u> (B)
5. Rumex crispus	< 5%	N	FACW	Prevalence Index = B/A = <u>#DIV/0!</u>
6. Cyperus eragrostis	< 5 %	N	FACW	
7.				Hydrophytic vegetation indicators
8.				x Dominance test is >50%
Total Cover:	90%			Prevalence index is $\leq 3.0^{1}$
				Morphological adaptations ¹ (Provide supporting
Woody Vine Stratum (regardless of size)				data in Remarks or on a separate sheet)
1.				Problematic Hydrophytic Vegetation ¹ (Explain)
2.				¹ Indicators of hydric soils and wetland hydrology
Total Cover:				must be present
				Hydrophytic
% Bare ground in Herb Stratum	6 Cover of I	Biotic Crust		Vegetation
<u></u> ,				Present? Yes X No
Remarks:				

US Army Corps of Engineers

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SOIL										Data point	Dp1
Profile D	escriptior	n: (Describ	e to the	depth ne	eded to docum	ent the in	dicator	or confiri	n the absence	of indicat	ors)
Depth	N	/latrix			R	edox Feat	ures				
(inches)	Colo	r (moist)	%	C	Color (moist)	%	Type ¹	Loc ²	Contrast ³	Texture	Comments
0-2	1	0YR4/1	100							sl	oxidized rhizospheres
2-20	1	0YR4/2	65		7.5YR 3/4	35	Fe-c	m, pl, rc	d	sl	
¹ Type: C	I -m=Conce	ntration - se	oft mass	· C-n=Co	ncentration - nor	l dule/concre	tion: D=	Depletion	· RM=Reduced	Matrix	
² Location	n: PL=Pore	e Lining, RC	C=Root	Channel,	M=Matrix	³ Con	trast: f=	faint; d=d	istinct; p=promi	nent (see Ta	able A1 for definitions)
Hydric S	oil Indicato	ors: (Applic	able to a	all LRRs, I	unless otherwise	noted.)			Indicators for P	roblematic	Hydric Soils: ⁴
Histos	sol (A1)	()			Sandy Redox (S5)			1 cm Muck	(A9) (LRR	C)
Histic	Epipedon	(A2)			Stripped Matrix	(S6) Minoral (E	1)		2 cm Muck	(A 10) (LR ortio (E19)	R B)
Hvdro	nisuc (A3) den Sulfid) e (A4)			Loamy Mucky	Matrix (F2	')		Reduced V	Material ((F2)
Stratif	ied Layers	(A5) (LRR	C)	X	Depleted Matri	x (F3)	•)		Other (Expl	ain in Rem	arks)
Deple	ted Below	Dark Surfa	ce (A11))	Redox Dark Su	urface (F6)			、 .		,
Thick	Dark Surfa	ace (A12)			Depleted Dark	Surface (F	7)		Listed on N	ational/Loo	al Hydric Soils List
Sandy	y Mucky M	ineral (S1)			_ Redox Depress	sions (F8)			⁴ Indicators of hydr	ophytic vege	tation and
Sandy	Gleyed IV	latrix (S4)			Vernal Pool (F	9)			wetland hydrology	must be pre	sent
Type:	Layer (II pre:	sent):									
Depth ((inches):							Hydrid	Soil Present?	Yes	X No
Remarks:	:							<u> </u>			
HYDR	OLOGY										
Wetland	Hydrolog	y Indicator	s:						_		
Primary in	ndicators (any one inc	licator is	sufficient		1		_	Secondary Indi	cators (2 c	r more required)
High V	Vater Tabl	41) = (42) (w/ir	12")		Biotic Crust (B11	1) 12)			Vater Mark	(S (B1) (RI) Denosite (B	(Piverine)
Satura	ation (A3)		112)		Aquatic Inverte	brates (B1	3)		Drift Depos	its (B3) (Ri	verine)
Water	r Marks (B	1) (Nonriver	ine)		Hydrogen Sulfi	de Odor (C	C1) (w/in	12")	Drainage P	atterns (B1	0)
Sedim	nent Depos	sits (B2) (No	onriverin	e) <mark>x</mark>	Oxidized Rhizospl	heres along	Living Roo	ots (C3)	Dry-Seasor	n Water Ta	ble (C2)
Drift D	Deposits (B	3) (Nonrive	rine)		Presence of Re	educed Iro	n (C4)		Thin Muck	Surface (C	7)
Surfac	ce Soil Cra	icks (B6)			_Recent Iron Re	eduction in	Plowed	Soil (C6)	Crayfish Bu	rrows (C8)	1
	tion Visible o	n Aerial Imag	ery (B7)		Other (Explain	in Remark	s)		Saturation	Visible on A	Aerial Imagery (C9)
Water	r-Stained L	eaves (B9)							EAC-Neutra	uitard (D3) al Test (D5)
Field Ob	servations	s:									/
Surface V	Nater Pres	ent?	Yes	No	D X De	pth (inches)	:				
Water Ta	ble Preser	nt?	Yes	No	D <mark>X</mark> De	pth (inches)	:	Wetlan	d Hydrology		
Saturatio	n Present?		Yes	No	D <mark>X</mark> De	epth (inches)	:	Prese	nt?	Yes	X No
(includes ca	apillary fringe	e) a (stream qua	nae monit		(12 perial photos, previo	2 inch detern	nination)	ilable:			
Describe R	Dat	a (Suean gue	ge, mont	oning well, i	achai photos, previo	as inspectio	nə), ii ava	nabie.			
Remarks	•										
Texture and	d Rock Fragm	nent Content							Rock Fragmer	nts	
cos - coarse	sand lo	cos - loamy coa	rse sand		sl - sandy loam		scl - sand	ly clay loam	gr - gravelly		xcb - extremely cobbly
s - sand	ls 	s - loamy sand	and		fsl - fine sandy loam) V least	cl - clay lo	oam	vgr - very grave	elly	st - stony
vfs - very fin	e sand lv	s - ioarny fine s /fs - loamy very	fine sand		l - loam	y iuaiti	sici - siity sc - sand	uay ioam y clay	xyr - extremely cb - cobbly	gravelly	xst - extremely stony
	C	osl - coarse sa	ndy loam		sil - silt loam		sic - silty	clay	vcb - very cobb	ly	
					SI - SIIT		c - clay				

WETLAND DETERMINATION FORM - Arid West Region

Project/Site:		East-West Connector					City/Count	y: Unio	on City, CA		Data Point:	Dp2		
Applicant/Owner:		Ty-Lin	y-Lin							State	СА	Date:	9/9/2007	
Investigator(s):		Chris	Chris Voigt, Rob Preston Section, Township, Range: T4S, R1W, unsurvey									eyed sectio	n	
Landform (hillslop	be, te	rrace,	etc.):	Ripa	arian channe	I	Loca	al relief (concave, convex, none): none					Slope (%):	5
Subregion (LRR):		LRR C Lat: Long:								Datum:				
Soil Map Unit Nar	me:	Yol	o Silt Lo	oam							NWI c	assification:		
Are climatic / hyd	rologi	ic cond	ditions o	on the site typic	al for this time	e of year	?	Yes	х	No)	(If no, expla	ain in Remar	ks)
Are Vegetation	no	Soil	no	or Hydrology	no	significa	nly d	listurbed?	Are "No	rmal Circum	stances"	present?	VES	
Are Vegetation	Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Rem							emarks)						
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.														

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

VEGETATION

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	Absolute	Dominant	Indicator	Dominance Test	t works	heet:			
Tree Stratum (scientific names) woody plants	s >3" dbh % Cover	Species?	Status						
				Number of Domir	nant Sp	ecies			
2.				That are OBL, FACW, or FAC: 1 (A					
3.									
4.				Total Number of	Domina	int			
Total	Cover:			Species Across A	All Strat	a:	3	(B)	
Sapling/Shrub Stratum (woody plants <3"	<u>dbh)</u>								
1. Salix lasiolepis	< 5%	N	FACW	Percent of Domir	ant Sp	ecies			
2.				that are OBL, FA	CW, or	FAC	33%	(A/B)	
3.									
4.				Prevalence inde	x work	sheet			
5.				Total % Cove	er of:	Multip	oly by:	_	
Total	Cover:			OBL species	0	x 1 =	0	_	
Herb Stratum (non-woody plants, regardles	<u>ss of size)</u>			FACW species	2	x 2 =	4	_	
1. Avena fatua	30%	Y	UPL	FAC species	30	x 3 =	90	_	
2. Lolium multiflorum	30%	Y	FAC	FACU species	4	x 4 =	16	_	
3. Bromus diandrus	30%	Y	UPL	UPL species	62	x 5 =	310	_	
4. Vicia sativa	< 5%	N	FACU	Column Total:	98	(A)	420	(B)	
5. Cirsium vulgare	< 5%	N	FACU	Preval	ence In	dex = B/A =	4.29	_	
6. Hirschfeldia incana	< 5%	N	UPL						
7.				Hydrophytic veg	etatior	indicators			
8.				Dominand	ce test i	s >50%			
Total	Cover: 100%			Prevalence	e index	: is <u><</u> 3.0 ¹			
Woody Vine Stratum (regardless of size)				Morpholog	gical ad	aptations ¹ (P	rovide suppor ieet)	rting	
1.				Problema	tic Hydi	ophytic Vege	etation ¹ (Ex	plain)	
2.				¹ Indicators of hyd	ric soils	and wetland	t hydrology		
Total	Cover:			must be p	resent		, .,		
			ſ	Hydrophytic					
% Bare ground in Herb Stratum	0 % Cover of B	liotic Crust		Vegetation					
				Present?	Yes		No	X	
Remarks:			L						

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SOIL								Data point:	Dp2
Profile D	escription: (Descri	be to the	e depth needed to docume	ent the in	dicator	or confirr	n the absence	of indicate	ors)
Depth	Matrix		Re	edox Feat	ures				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Contrast ³	Texture	Comments
0-14	10YR 4/4	95	7.5YR 4/2	5	Fe-c	m, pl, rc	d	cl	
14-20	10YR4/2	75	7.5YR 4/2	25	Fe-c	m, pl, rc	f	sicl	
¹ Type: C	-m=Concentration -	soft mas	s; C-n=Concentration - nod	ule/concre	etion; D=	Depletion	; RM=Reduced	Matrix	
² Location	n: PL=Pore Lining, F	RC=Root	Channel, M=Matrix	³ Con	trast: f=	faint; d=di	stinct; p=promi	nent (see Ta	ble A1 for definitions)
Hydric S	oil Indicators: (Appl	icable to	all LRRs, unless otherwise	noted.)			Indicators for P	roblematic	Hydric Soils: ⁴
Histos	Sol (A1)		Sandy Redox (S5)		-	1 cm Muck	(A9) (LRR	C)
Black	Epipedon (AZ) Histic (A3)		L camy Mucky M	(30) Aineral (F	1)	-		(A 10) (LRI ertic (F18)	ς D)
Hydro	gen Sulfide (A4)		Loamy Gleyed	Matrix (F2	!)		Red Parent	Material (T	F2)
Stratif	ied Layers (A5) (LR	R C)	Depleted Matrix	(F3)			Other (Expl	ain in Rem	arks)
Deple	ted Below Dark Sur	ace (A11) Redox Dark Su	rface (F6)					
Thick	Dark Surface (A12)	`	Depleted Dark	Surface (F	7)		Listed on N	ational/Loc	al Hydric Soils List
Sandy	/ Mucky Mineral (S1 / Gleved Matrix (S4))	Vernal Pool (F9	30NS (F8)			vetland hydrology	must be pres	ation and
Restrictive	Layer (if present):			,)		<u> </u>	would he hydrology	muot bo prot	
Type:									
Depth ((inches):					Hydrid	Soil Present?	Yes	No X
Remarks	:								
HYDR	OLOGY								
Primary in	ndicators (any one in	ndicator i	s sufficient)				Secondary Indi	cators (2 or	more required)
Surfac	ce Water (A1)		Salt Crust (B11)		-	Water Mark	s (B1) (Riv	erine)
High \	Water Table (A2) (w	/in 12")	Biotic Crust (B1	2)			Sediment D	eposits (B2	2) (Riverine)
Satura	ation (A3)		Aquatic Invertel	brates (B1	3)		Drift Depos	its (B3) (Riv	verine)
Water	· Marks (B1) (Nonriv	erine)	Hydrogen Sulfic	de Odor (C	21) (w/in	12")	Drainage P	atterns (B1)	U)
Drift D	ieni Deposits (B2) (i)enosits (B3) (Nonriy	vonnvenn verine)		eres along i duced Iro	Living Roo n (C.4)	ots (C3)	Thin Muck	Surface (C7	(CZ)
Surfac	ce Soil Cracks (B6)	/enne)	Recent Iron Re	duction in	Plowed	Soil (C6)	Cravfish Bu	irrows (C8)	/
Inunda	tion Visible on Aerial Im	agery (B7)	Other (Explain i	in Remark	s)	, , ,	Saturation V	visible on A	erial Imagery (C9)
Water	-Stained Leaves (B	9)				-	Shallow Aq	uitard (D3)	
Field Ob	oonvotion o						FAC-Neutra	al Test (D5)	
	Notor Procont?	Voc		oth (inchoo)					
Water Ta	ble Present?	Yes		oth (inches)		Wetlan	d Hydrology		
Saturatio	n Present?	Yes	No X De	pth (inches)		Preser	nt?	Yes	No X
(includes c	apillary fringe)		(12	inch detern	nination)	la h la c		-	
Describe R	ecorded Data (stream g	uage, mon	toring well, aerial photos, previo	us inspectio	ns), if ava	liadie:			
Remarks	:								
Texture and	Rock Fragment Conten	t							
Texture	uge.n oonten						Rock Fragmer	nts	
cos - coarse s - sand	sand Icos - Ioamy c	oarse sand d	sl - sandy loam fsl - fine sandy loam		scl - sand	ly clay loam bam	gr - gravelly vgr - very grave	llv	xcb - extremely cobbly st - stony
fs - fine sand	d Ifs - loamy fin	e sand	vfsl - very fine sandy	loam	sicl - silty	clay loam	xgr - extremely	gravelly	vst - very stony
vfs - very fin	e sand lvfs - loamy ve	ery fine sand	l - Ioam sil - silt Ioam		sc - sand	y clay clay	cb - cobbly	dy.	xst - extremely stony
	CUSI - CUAISE	Januy IUdifi	si - silt		c - clay	oidy		ч у	

َ e <u>هَ شَهَ</u> WETLAN Jones & Stokes

Project/Site:	East-W	lest Connector			City/County	y: Alamed	a		Data Point	2C-1	
Applicant/Owner:	АСТА						State:	СА	Date	3/25/2008	
Investigator(s):	R. Presto	n			Section,	Township,	Range:		T4WS, R1V	v	
Landform (hillslop	oe, terrace, e	etc.): basin		Lo	cal relief (cor	ncave, conv	/ex, none):	concav	/e	Slope (%)	0
Subregion (LRR):	L	LRR C		Lat	t	Long:				Datum	
Soil Map Unit Nar	ne: C	Clear Lake clay, 0-29	% slopes					NWI cl	assification		
Are climatic / hydr	rologic condi	tions on the site typic	cal for this	time of year?	Yes	х	No		(If no, expl	ain in Rema	rks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norm	al Circumst	ances"	present?	✓ YES	
Are Vegetation	Soil	X or Hydrology		naturally pr	oblematic?	(If need	ded, explair	n any ar	nswers in R	emarks)	
SUMMARY C	OF FINDI	NGS - Attach site r	nap show	ing sampling	point locatio	ons, transe	cts, impor	tant fea	atures, etc.		
Hydrophytic Vege	tation Prese	nt? Yes	X	No							
Hydric Soil Preser	nt?	Yes	X	No		Is the San	pled Area				
Wetland Hydrolog	gy Present?	Yes	Х	No		within a w	etland?	Yes	Х	No	
Remarks:											
	Recently de	eveloped wetlands									
	,										
VEGETATIO	N		Abcoluto	Dominant	Indicator	Domin	anco Tost	workel	hoot:		
Tree Stratum (scie	entific name	s) woody plants >3" dbh	% Cover	Species?	Status	Domin	ance rest	WOIKSI	ieet.		
1.						Numbe	r of Domina	ant Spe	ecies		
2.						That a	e OBL, FA	CW, or	FAC:	4	(A)
3.						Total N	unaber of F		-1		
4.		Total Cover:				Specie	s Across Al	ominar I Strata	nu 	4	(B)
Sapling/Shrub Str	ratum (wood	ly plants <3"dbh)				Opoolo		onata			(2)
1.						Percen	t of Domina	ant Spe	cies		
2.						that are	e OBL, FAC	W, or I	FAC	100%	(A/B)
3.						Broyal	onoo indox	works	haat		
4. 5						Tot	al % Cover	of:	Multi	olv bv:	
		Total Cover:				OBL sr	becies	011	x 1 =	0	-
Herb Stratum (nor	n-woody pla	nts, regardless of siz	e)			FACW	species		x 2 =	0	_
1. Lolium multiflorum		-	20	Y	FAC	FAC sp	becies		x 3 =	0	-
2. Picris echioides			20	Y	FAC	FACU	species		x 4 =	0	
3. Lotus corniculatus			20	Y	FAC	UPL sp	ecies		x 5 =	0	_
4. Hordeum marinum	subsp. gusson	eanum	40	Y	FAC	Colum	n Total: <u>(</u>)	(A)	0	(B)
5.							Prevale	nce Inc	dex = B/A =	#DIV/0!	_
6.											
7.						Hydro	ohytic vege	etation	indicators		
8.							Dominance	e test is	\$ >50%		
		Total Cover:					Prevalence	e index	is $\leq 3.0^{\circ}$	Provide cupro:	ting
Woody Vine Strat	tum (regardle	ess of size)					data in Rema	ical aud	n a separate s	heet)	ung
1.							Problemati	c Hydro	ophytic Veg	etation ¹ (Ex	plain)
2.						¹ Indica	tors of hydr	ic soils	and wetlan	d hydrology	
		Total Cover:					must be pr	esent			
						Hydro	ohytic				
% Bare ground in	Herb Stratu	m%	Cover of	Biotic Crust		Vegeta	ition				
						Preser	nt?	Yes	Х	No	
Remarks:											

Profile D										Data point	t:	2C-1
	escription: (Describ	e to the	e depth ne	eded to d	locument	the inc	dicator o	or confir	m the absend	e of indicat	tors)	
Depth	Matrix				Redox	x Featu	ires					
(inches)	Color (moist)	%	C	olor (mois	st)	%	Type ¹	1 oc^2	Contrast ³	Texture	C	omments
		70	Ű		,,,	70	Type	200	Contract	Toxtaro		
0-4	101R 3/2									C		
4-18	10YR 4/1									С		
¹ Type: C:	-m=Concentration - s	oft mas	s [.] C-n=Cor	ocentration	n - nodule/	I concre	tion: D=	l Depletior	n RM=Reduce	d Matrix		
² Location	n: PL=Pore Lining, R	C=Root	Channel, N	∕l=Matrix		³ Cont	rast: f=f	aint; d=d	istinct; p=pror	ninent (see T	able A1 fo	or definitions)
Hydric So	oil Indicators: (Applic	able to	all LRRs, u	inless oth	erwise note	ed.)			Indicators for	Problematio	: Hydric	Soils:4
Histos	sol (A1)			Sandy R	edox (S5)				1 cm Mud	k (A9) (LRR	C)	
Histic	Epipedon (A2)			Stripped	Matrix (S6	5)			2 cm Muc	k (A 10) (LF	RRB)	
Black	Histic (A3)			Loamy N	lucky Mine	eral (F1)		Reduced	Vertic (F18)		
Hydro	gen Sulfide (A4)			Loamy G	Bleyed Mat	rix (F2))		Red Pare	nt Material (TF2)	
Stratifi	ted Layers (A5) (LRR	C)	、	Depleted	Matrix (F3	3) - (EC)			X Other (Ex	plain in Ren	narks)	
	Ted Below Dark Surfa	ICE (A11)	Redox D	ark Surfac	e (⊦6)	7)		Linted ar	National/L -	이 니 ~~	ic Soile List
Sandy	Mucky Mineral (21)				Dark Suff	ace (F s (F9)	1)		⁴ Indicators of b	drophytic veg	udi ⊓yûľ atation ang	IC JUIIS LIST
Sandy	Gleved Matrix (S4)			Vernal P	ool (F9)	5 (FO)			wetland hydrolo	av must be pre	sent	1
Restrictive	Laver (if present):			Volliari					Wolland Hydrolo	gy muot bo pro	00011	
Туре:												
Depth ((inches):							Hydrid	c Soil Presen	t? Yes	X	No
Remarks:	: Matrix slightly depleted	d, althoug	h redox featu	ires not evic	dent							
HYDR												
Wetland	Hydrology Indicato	rs:										
Wetland Primary in	Hydrology Indicator ndicators (any one indicators)	r s: dicator i	s sufficient)					Secondary In	dicators (2 d	or more I	required)
Wetland Primary in Surfac	Hydrology Indicator ndicators (any one indicators (A1)	r s: dicator i	s sufficient) Salt Crus	st (B11)			-	Secondary Ir	dicators (2 d rks (B1) (Ri	or more i verine)	required)
Wetland Primary in Surface High V	Hydrology Indicator ndicators (any one indicators (any one indicators) ce Water (A1) Water Table (A2) (w/i	r s: dicator i n 12")	s sufficient)) Salt Crus Biotic Cru	st (B11) ust (B12)				Secondary In Water Ma	dicators (2 d rks (B1) (Ri Deposits (B	or more i verine) 82) (Rive	required)
Wetland Primary ir Surfac High V	Hydrology Indicator ndicators (any one indicators (A1) ce Water (A1) Water Table (A2) (w/indication (A3)	r s: dicator i n 12")	s sufficient) Salt Crus Biotic Cru Aquatic I	st (B11) ust (B12) Invertebrate	es (B1	3)		Secondary In Water Ma Sediment	dicators (2 d rks (B1) (Ri Deposits (B osits (B3) (R	or more i verine) 82) (Rive iverine)	required) rine)
Wetland Primary in Surfac High V Satura X	Hydrology Indicator ndicators (any one indicators (A1) Water Table (A2) (w/in ation (A3) Marks (B1) (Nonrive	r s: dicator i n 12") rine)	s sufficient) Salt Crus Biotic Cru Aquatic I Hydroge	st (B11) ust (B12) nvertebrate n Sulfide C	es (B1:)dor (C	3) :1) (w/in	12")	Secondary Ir Water Ma Sediment Drift Depo	dicators (2 d rks (B1) (Ri Deposits (B psits (B3) (R Patterns (B	or more i verine) 32) (Rive iverine) 10)	required) rine)
Wetland Primary in Surface High V Satura X Water Sedim	Hydrology Indicator ndicators (any one indicators (any one indicators) ce Water (A1) Water Table (A2) (w/in ation (A3) Marks (B1) (Nonrive nent Deposits (B2) (N	r s: dicator i n 12") rine) onriverii	s sufficient) Salt Crus Biotic Cru Aquatic I Hydroger Oxidized R	st (B11) ust (B12) nvertebrate n Sulfide C	es (B1:)dor (C ; along L	3) :1) (w/in .iving Roo	- 12") ts (C3)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas	dicators (2 c rks (B1) (Ri Deposits (B osits (B3) (R Patterns (B on Water Ta	or more i verine) 82) (Rive iverine) 10) able (C2)	required) rrine)
Wetland Primary ir Surfac High V Satura X Water Sedim Drift D	Hydrology Indicator ndicators (any one indi- ce Water (A1) Water Table (A2) (w/indi- ation (A3) Marks (B1) (Nonrive ment Deposits (B2) (Nonrive Deposits (B3) (Nonrive	r s: dicator i n 12") rine) onriverii erine)	s sufficient)) Biotic Cru Aquatic I Hydroger Oxidized R Presence	st (B11) ust (B12) Invertebrate n Sulfide C Rhizospheres e of Reduc	es (B1: Ddor (C along L ed Iror	3) :1) (w/in .iving Roo 1 (C4)	12") ts (C3)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc	dicators (2 c rks (B1) (Ri Deposits (B osits (B3) (R Patterns (B on Water Ta c Surface (C	or more i verine) 32) (Rive iverine) 10) able (C2) 27)	required) rine)
Wetland Primary ir Surface High V Satura X Water Sedim Drift D Surface	Hydrology Indicator Indicators (any one indicators (any one indicators) Water Table (A2) (w/indication (A3) Marks (B1) (Nonrive Inent Deposits (B2) (No Deposits (B3) (Nonrive Ce Soil Cracks (B6)	r s: dicator i n 12") rine) onriverii erine)	s sufficient)) Salt Crus Biotic Cru Aquatic I Hydrogel Oxidized R Presence Recent I	st (B11) ust (B12) nvertebrate n Sulfide C Rhizospheres e of Reduc ron Reduct	es (B1 Ddor (C along L red Iror tion in	3) ;1) (w/in Living Roo n (C4) Plowed :	12") ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I	dicators (2 c rks (B1) (Ri Deposits (B osits (B3) (R Patterns (B Patterns (B on Water Ta c Surface (C Burrows (C8	or more i verine) 32) (Rive iverine) 10) able (C2) 7)	required) rine)
Wetland Primary ir Surfac High V Satura X Water Sedim Drift D Surfac Inundat	Hydrology Indicator ndicators (any one indi- ce Water (A1) Water Table (A2) (w/ii ation (A3) Marks (B1) (Nonrive nent Deposits (B2) (N Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image	r s: dicator i n 12") rine) onriverin erine) gery (B7)	ne)	Salt Crus Biotic Cru Aquatic I Hydrogen Oxidized R Presence Recent In Other (E:	st (B11) ust (B12) nvertebrate n Sulfide C hizospheres e of Reduc ron Reduct xplain in R	es (B1:)dor (C along L ed Iror tion in emark:	3) :1) (w/in .iving Roo n (C4) Plowed S s)	- ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I Saturatio	dicators (2 c rks (B1) (Ri Deposits (B Deits (B3) (R Patterns (B Den Water Ta C Surface (C Burrows (C8 D Visible on	or more i verine) 32) (Rive iverine) 10) bble (C2) 7)) Aerial In	required) rine) nagery (C9)
Wetland Primary ir Surfac High V Satura X Vater Sedim Drift D Surfac Inundat Water	Hydrology Indicator ndicators (any one information ce Water (A1) Water Table (A2) (w/ii ation (A3) Marks (B1) (Nonrive ment Deposits (B2) (N Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image -Stained Leaves (B9)	r s: dicator i n 12") rine) onriverin erine) gery (B7)	ne)	Salt Crus Biotic Cru Aquatic I Hydroget Oxidized R Presence Recent In Other (E:	st (B11) ust (B12) nvertebrate n Sulfide C Rhizospheres e of Reduc ron Reduct xplain in R	es (B1: Ddor (C along L ed Iror tion in emarks	3) :1) (w/in iving Roo n (C4) Plowed \$ S)	ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I Saturation Shallow A	dicators (2 c rks (B1) (Ri Deposits (B osits (B3) (R Patterns (B on Water Ta c Surface (C Burrows (C8 o Visible on equitard (D3)	or more i verine) 32) (Rive iverine) 10) 10) 10) 10) 27)) Aerial Im)	required) rrine) hagery (C9)
Wetland Primary in Surfac High V Satura X Water Sedim Drift D Surfac Inundat Water	Hydrology Indicator ndicators (any one indicators (any one indicators (any one indicators) ce Water Table (A2) (w/indiation (A3) Marks (B1) (Nonrive nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imag -Stained Leaves (B9)	r s: dicator i n 12") rine) onriverin erine) gery (B7)	s sufficient	Salt Crus Biotic Cru Aquatic I Hydrogel Oxidized R Presence Recent Iu Other (E	st (B11) ust (B12) Invertebrate n Sulfide C Rhizospheres e of Reduct ron Reduct xplain in Re	es (B1: Ddor (C along L ed Iror tion in emarks	3) :1) (w/in iving Roo n (C4) Plowed \$ s)	12") ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I Saturation Shallow A FAC-Neu	dicators (2 c rks (B1) (Ri Deposits (B posits (B3) (R Patterns (B on Water Ta c Surface (C Burrows (C8 o Visible on quitard (D3 tral Test (D5	or more i verine) 32) (Rive iverine) 10) 10) 30) 30) 32) Aerial In 30) 30)	required) rrine) hagery (C9)
Wetland Primary in Surfac High V Satura X Sedim Drift D Surfac Inundat Water Field Obs	Hydrology Indicator Indicators (any one indi- ce Water (A1) Water Table (A2) (w/indi- ation (A3) Marks (B1) (Nonriver the Deposits (B2) (Non- Deposits (B3) (Nonriver Ce Soil Cracks (B6) tion Visible on Aerial Imager- Stained Leaves (B9) Servations: Mater Pascent2	rs: dicator i n 12") rine) onriverin erine) gery (B7)	ne)	Salt Crus Biotic Cru Aquatic I Hydrogel Oxidized R Presence Recent In Other (E:	st (B11) ust (B12) invertebrate n Sulfide C Rhizospheres e of Reduct ron Reduct xplain in R	es (B1:)dor (C ; along L ; ed Iror tion in emarks	3) :1) (w/in iving Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I Saturation Shallow A FAC-Neu	dicators (2 c rks (B1) (Ri Deposits (B posits (B3) (R Patterns (B pon Water Ta c Surface (C Burrows (C8 o Visible on quitard (D3) rral Test (D5)	or more i verine) 32) (Rive iverine) 10) 30 30 30 32 32 32 32 32 32 32 32 32 32 32 32 32	required) rrine) hagery (C9)
Wetland Primary in Surfac High V Satura X Water Sedim Drift D Surfac Inundat Water Field Obs Surface V Water Tal	Hydrology Indicator Indicators (any one indi- ce Water (A1) Water Table (A2) (w/indi- ation (A3) Marks (B1) (Nonrive Ce Soil Cracks (B2) (Non- Ce Soil Cracks (B6) tion Visible on Aerial Imager- Stained Leaves (B9) Servations: Water Present?	rs: dicator i n 12") rine) onriverin erine) gery (B7) Yes	ne)	Salt Crus Biotic Cri Aquatic I Hydrogei Oxidized R Presence Recent II Other (E:	st (B11) ust (B12) nvertebrate n Sulfide C Rhizospheres e of Reduct ron Reduct xplain in Re Depth (i	es (B1:)dor (C along L ed Iror tion in emarks inches):	3) :1) (w/in iving Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6)	Secondary Ir Water Ma Sediment Drift Depo Drainage Dry-Seas Thin Muc Crayfish I Saturation Shallow A FAC-Neu	dicators (2 d rks (B1) (Ri Deposits (B Patterns (B on Water Ta Surface (C Burrows (C8 N Visible on Aquitard (D3 tral Test (D5	pr more i verine) 32) (Rive iverine) 10) able (C2) 77)) Aerial In)	required) rrine) nagery (C9)
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4/23/2008

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Project/Site:	Ea	st-W	est Co	onnector				City/Count	y: Alamed	а		Data Point:	2C-2	
Applicant/Owner:	AC	ТА								State:	СА	Date:	3/25/2008	6
Investigator(s):	R. Pro	estor	า					Section,	Township,	Range:		T4WS, R1W	I	
Landform (hillslop	e, terra	ce, et	tc.):	basin			Loc	_ cal relief (cor	ncave, con	vex, none)	conve	c	Slope (%)	: 0
Subregion (LRR):		L	RRC				Lat	:	Long:				Datum	:
Soil Map Unit Nan	ne:	С	lear La	ake clav. 0-2	% slopes						NWI c	assification:		
Are climatic / hvdr	nologic c	condit	ions or	n the site typi	cal for this	tim	e of vear?	Yes	x	No		(If no, expla	ain in Rema	arks)
Are Vegetation	S			or Hydrology		cirri	significanty	disturbed?	Are "Norm	al Circums	stances"	nresent?	VES	
Are Vegetation			x	or Hydrology	·		naturally pr	oblematic?	(If need	ded evola	in anv a	nswers in Re	amarks)	
SUMMARY C	DF FIN		IGS -	Attach site	map show	ving	sampling	ooint locatio	ons, transe	ects, impo	rtant fe	atures, etc.		
Hydrophytic Veget	tation P	Preser	nt?	Yes	-	No	X							
Hydric Soil Preser	nt?	10001		Yes		No	X	-	Is the San	npled Area	a			
Wetland Hydrolog	gy Prese	ent?		Yes		No	Х		within a w	vetland?	Yes		No	X
Remarks:														
	Upland	l area i	n recent	ly developed we	tlands									
VEGETATIO	N				Absolute		Dominant	Indicator	Domin	ance Test	tworks	heet:		
Tree Stratum (scie	entific n	ames	s) woody	<u>/ plants >3" dbh</u>	% Cover		Species?	Status	Donni		t works	neet.		
1.									Numbe	er of Domin	nant Spe	ecies		
2.									That a	re OBL, FA	ACW, or	FAC:	0	(A)
3.									Total N	lumber of	Domina	nt		
4.				Total Cover:	r <u></u>				Specie	s Across A	All Strata	a:	1	(B)
Sapling/Shrub Stra	atum (v	wood	y plant	s <3"dbh)										_ ` /
1.									Percer	nt of Domir	nant Spe	ecies		
2.					a <u></u>				that are	e OBL, FA	CW, or	FAC	0%	(A/B)
3.									Broyal	onco indo	w work	shoot		
4. 5.									To	tal % Cove	er of:	Multin	olv by:	
				Total Cover:					OBL st	pecies		x 1 =	0	-
Herb Stratum (nor	n-wood	y plar	nts, rea	ardless of siz	:e)				FACW	species		x 2 =	0	-
1. Vicia sativa					80		Y	FACU	FAC s	Decies		x 3 =	0	-
2. Picris echioides					10		Y	FAC	FACU	species		x 4 =	0	
3. Geranium dissectur	m				10		Y	UPL	UPL sp	pecies		x 5 =	0	_
4.									Colum	n Total:	0	(A)	0	(B)
5.									_	Preval	ence In	dex = B/A =	#DIV/0!	_
6.														
7.									Hydro	phytic veg	getation	indicators		
8.										Dominand	ce test is	s >50%		
				Total Cover:						Prevalence	ce index	is $\leq 3.0^{1}$	rovido aurora	ting
Woody Vine Strate	um (reg	ardle	ess of s	<u>ize)</u>						data in Rem	narks or o	n a separate sh	ieet)	ung
1.										Problema	tic Hydr	ophytic Vege	etation ¹ (Ex	plain)
2.									¹ Indica	tors of hyd	Iric soils	and wetland	d hydrology	,
				Total Cover:				I		must be p	oresent			
									Hydro	phytic				
% Bare ground in	Herb St	tratur	n	9	6 Cover of	Bio	tic Crust		Vegeta	ation				
									Prese	nt?	Yes		No	X
Remarks:														

SOIL										Data point	2C-2
Profile D	escription: (Des	scribe to the	e depth ne	eded to doo	ument th	ne inc	dicator o	or confir	m the absence	of indicat	ors)
Depth	Matrix				ires						
(inches)	Color (mois	st) %	С	olor (moist)		%	Type ¹	1 oc^2	Contrast ³	Texture	Comments
0.19	10VB 2/1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				70	.) Þ ö	200	e entituet		
0-18	1011 3/1									U	
¹ Type: C	-m=Concentratio	n - soft mas	s; C-n=Cor	centration -	nodule/co	oncre	tion; D=	Depletior	; RM=Reduced	Matrix	I
² Locatior	n: PL=Pore Linin	g, RC=Root	Channel, N	/I=Matrix	3	³ Cont	rast: f=f	aint; d=d	istinct; p=promi	nent (see Ta	able A1 for definitions)
Hydric S	oil Indicators: (A	pplicable to	all LRRs, u	Inless otherv	vise notec	d.)			Indicators for P	roblematic	Hydric Soils: ⁴
Histos	sol (A1)			Sandy Red	ox (S5)				1 cm Muck	(A9) (LRR	C)
Histic	Epipedon (A2)			Stripped Ma	atrix (S6)		`		2 cm Muck	(A 10) (LR	R B)
Black	Histic (A3)			Loamy Muc	ky Minera	al (F1)		Reduced V	ertic (F18)	
Stratif	igen Sumue (A4)				yeu Mainx latrix (E3)	х (Г2))			ain in Rem	irz) parks)
Deple	ted Below Dark S	Surface (A11)	Redox Dark	surface	(F6)					land
Thick	Dark Surface (A	12)	/	Depleted D	ark Surfac	ce (F	7)		Listed on N	ational/Loc	al Hydric Soils List
Sandy	/ Mucky Mineral	(S1)		Redox Dep	ressions ((F8)	,		⁴ Indicators of hydr	ophytic vege	tation and
Sandy	/ Gleyed Matrix (S4)		Vernal Poo	l (F9)				wetland hydrology	must be pre	sent
Restrictive	Layer (if present):										
Type:								l la calacia		Vee	
Depth	(inches):							Hydrid	c Soll Present?	fes	
Remarks	:										
HYDR	OLOGY										
Wetland	Hydrology India	cators:	<i></i>								
Primary I	ndicators (any or	ie indicator i	s sufficient) Calt Orivet (-	Secondary Indi	cators (2 c	r more required)
	Votor Toblo (A2)	(w/in 12")		Biotic Crust	DII) + (D12)				Sodimont C	S (DI) (RI)	(enne)
Fight v	valer Table (A2)	(w/iii iz)		Aquatic Inv	(DIZ) ortobrator	- (P1)	2)			ite (B3) (D	
 Water	: Marks (B1) (Nor	ariverine)		Hydrogen 9		lor (C	3) 1) (w/in	12")		atterns (R1	0)
Sedin	nent Deposits (B2	2) (Nonriveri	ne)		rospheres a	ilona l	iving Roo	ts (C3)	Drv-Seasor	n Water Ta	ble (C2)
Drift D	Deposits (B3) (No	nriverine)		Presence o	f Reduced	d Iror	n (C4)		Thin Muck	Surface (C	7)
Surfa	ce Soil Cracks (B	6)		Recent Iror	Reductio	on in l	Plowed	Soil (C6)	Crayfish Bu	rrows (C8)	,
Inunda	tion Visible on Aeria	, I Imagery (B7)		Other (Expl	ain in Rer	marks	s)	. ,	Saturation '	Visible on <i>I</i>	Aerial Imagery (C9)
Water	-Stained Leaves	(B9)		_					Shallow Aq	uitard (D3)	
									FAC-Neutra	al Test (D5)
Field Ob	servations:										
Surface \	Water Present?	Yes	No	X	Depth (inc	ches):					
Water Ta	ble Present?	Yes	No	X	Depth (inc	ches):		Wetlar	d Hydrology		
Saturatio	n Present?	Yes	No	X	Depth (inc	ches):		Prese	nt?	Yes	No X
(includes c Describe R	apillary fringe) ecorded Data (strea	m quage mon	itoring well a	erial photos p	(12 inch d revious insp	determ	ination) (s) if avai	lable:			
00.100 N		3-290, mon				- 5401	.,, avai				
Pomorke											
Remarks											
Texture and	Rock Fragment Cor	ntent									
Texture	-								Rock Fragmer	nts	
cos - coarse	sand lcos - loar	my coarse sand		sl - sandy loam	loam		scl - sandy	y clay loam	gr - gravelly		xcb - extremely cobbly st - stony
s - sand fs - fine sand	is - ioamy d lfs - loam	y fine sand		vfsl - very fine s	sandy loam		sicl - silty	clay loam	vgr - very grave xgr - extremelv	gravelly	vst - very stony
vfs - very fin	e sand Ivfs - Ioan	ny very fine sand	i	I - Ioam			sc - sandy	/ clay	cb - cobbly		xst - extremely stony
	cosl - coa	rse sandy loam		sil - silt loam			sic - silty o	clay	vcb - very cobb	ly	
				əi - Əlli			c - ciay				

² <u>承</u> WETLAND DETERMINA Jones & Stokes

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WETLAND	DETERMINATION	FORM - Arid	West Region
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Project/Site:	East-West Connector			City/County	r <mark>: Alameda</mark> Dat	a Point: 2C-3
Applicant/Owner:	АСТА			_	State: CA	Date: 3/25/2008
Investigator(s): R.	Preston			Section,	Township, Range: T4V	/S, R1W
Landform (hillslope, te	errace, etc.): Basin		Loc	al relief (cor	icave, convex, none): concave	Slope (%): 0
Subregion (LRR):	LRR C		Lat:		Long:	Datum:
Soil Map Unit Name:	Clear Lake clay, 0-2%	% slopes			NWI classi	fication:
Are climatic / hydrolog	ic conditions on the site typic	cal for this ti	me of year?	Yes	X No (If r	io, explain in Remarks)
Are Vegetation	Soil or Hydrology		significanly	disturbed?	Are "Normal Circumstances" pre	sent?
Are Vegetation	Soil X or Hydrology		naturally pro	blematic?	(If needed, explain any answ	ers in Remarks)
SUMMARY OF	FINDINGS - Attach site r	nap showir	ng sampling p	oint locatio	ns, transects, important featur	es, etc.
Hydrophytic Vegetatio	n Present? Yes	XN	lo			
Hydric Soil Present?	Yes	N	lo X		Is the Sampled Area	
Wetland Hydrology Pr	resent? Yes	XN	lo	_	within a wetland? Yes	X No
Remarks:						
R	ecently developed wetlands					
VEGETATION		Absolute	Dominant	Indicator	Dominance Test worksheet	
Tree Stratum (scientifi	ic names) woody plants >3" dbh	% Cover	Species?	Status	Dominance rest worksheet	
1.					Number of Dominant Species	\$
2.					That are OBL, FACW, or FAC): <u>1</u> (A)
3.					Total Number of Dominant	
4.	Total Cover:				Species Across All Strata:	3 (B)
Sapling/Shrub Stratun	n (woody plants <3"dbh)					(=)
1.					Percent of Dominant Species	1
2.					that are OBL, FACW, or FAC	<u>33%</u> (A/B)
3.					Provalance index workshoe	
5.					Total % Cover of:	Multiply by:
	Total Cover:				OBL species 0 x 1	= 0
Herb Stratum (non-wo	ody plants, regardless of size	e)			FACW species 0 x 2	= 0
1. Lotus corniculatus		30	Y	FAC	FAC species 40 x 3	= 120
2. Geranium dissectum		30	Y	UPL	FACU species <u>30</u> x 4	= 120
3. Vulpia myuros		30	Y	FACU	UPL species <u>30</u> x 5	= 150
4. Lolium multiflorum		5	N	FAC	Column Total: 100 (A)	<u>390</u> (B)
5. Picris echioides		5	N	FAC	Prevalence Index :	= B/A = <u>3.9</u>
6.						
7.					Hydrophytic vegetation ind	cators
8.					N Dominance test is >50)%
	Total Cover:				N Prevalence index is N Morphological adapta	3.0' tions ¹ (Provide supporting
Woody Vine Stratum ((regardless of size)				data in Remarks or on a se	sparate sheet)
1.					Problematic Hydrophy	/tic Vegetation ¹ (Explain)
2.					¹ Indicators of hydric soils and	wetland hydrology
	Total Cover:				must be present	
					Hydrophytic	
% Bare ground in Herl	b Stratum	Cover of B	Biotic Crust		Vegetation	
					Present? Yes	No X
Remarks:						

								Data point	2C-3
Profile D	escription: (Describe	e to the	depth needed to docum	nent the in	dicator o	or confir	m the absence	of indicat	ors)
Denth	Matrix		R	edov Feat	Iros				
(inches)	Color (moist)	0/_	Color (moist)			1 oc^2	Contract ³	Toyturo	Comments
(Inches)		70		70	туре	LUC	Contrast	Texture	Comments
0-6	10YR 3/1							С	
6-18	10YR 4/1.5							с	
								1	
¹ Type: C	-m=Concentration - so	oft mass	; C-n=Concentration - noo	dule/concre	tion; D=	Depletior	; RM=Reduced	Matrix	
² Locatior	n: PL=Pore Lining, RC	=Root	Channel, M=Matrix	³ Con	trast: f=f	aint; d=d	istinct; p=promir	nent (see Ta	able A1 for definitions)
Hydric S	oil Indicators: (Application	able to a	all LRRs, unless otherwise	e noted.)			Indicators for P	roblematic	Hydric Soils:4
Histos	sol (A1)		Sandy Redox	(S5)			1 cm Muck	(A9) (LRR	C)
Histic	Epipedon (A2)		Stripped Matrix	x (S6)			2 cm Muck	(A 10) (LR	R B)
Black	Histic (A3)		Loamy Mucky	Mineral (F	1)		Reduced Ve	ertic (F18)	
Hydro	ogen Sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Red Parent	Material (TF2)
Strati	fied Layers (A5) (LRR	C)	Depleted Matri	ix (F3)			Other (Expl	ain in Rem	arks)
Deple	ted Below Dark Surface	ce (A11	Redox Dark Su	urface (F6)					
Thick	Dark Surface (A12)		Depleted Dark	Surface (F	7)		Listed on N	ational/Loc	cal Hydric Soils List
Sandy	y Mucky Mineral (S1)		Redox Depres	sions (F8)			⁴ Indicators of hydr	ophytic vege	tation and
<u> </u>	y Gleyed Matrix (S4)		Vernal Pool (F	9)			wetland hydrology	must be pre	sent
Restrictive	Layer (if present):								
Type:	(cashaa)					ب المربحا		Vee	Ne
Depth	(Inches):	_				пуала	; Soll Present?	res	
Remarks	: Matrix slightly depleted	although	redox features not evident						
HYDR									
Wetland	Hydrology Indicator	s.							
Wetland Primary i	Hydrology Indicators ndicators (any one ind	s: icator is	sufficient)				Secondary Indi	cators (2 o	r more required)
Wetland Primary i Surfa	Hydrology Indicators ndicators (any one ind ce Water (A1)	s: licator is	sufficient)	1)		-	Secondary Indi Water Mark	cators (2 o s (B1) (Riv	r more required)
Wetland Primary i Surfac	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in	s: icator is	sufficient) Salt Crust (B1 [/] Biotic Crust (B	1) 12)		<u>-</u>	Secondary Indi Water Mark Sediment D	cators (2 o s (B1) (Riv eposits (B	or more required) /erine) 2) (Riverine)
Wetland Primary i Surfac High	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3)	s: icator is 12")	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte	1) 12) ebrates (B1	3)	-	Secondary Indi Water Mark Sediment D Drift Deposi	<u>cators (2 o</u> s (B1) (Riv eposits (B its (B3) (Ri	r more required) verine) 2) (Riverine) verine)
Wetland Primary i Surfa High Satura Water	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3)	s: icator is 12") ine)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte	1) 12) ebrates (B1	3) 21) (w/in	-	Secondary Indi Water Mark Sediment D Drift Deposi	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1	r more required) rerine) 2) (Riverine) verine) 0)
Wetland Primary i Surfac High Satura Water Sedin	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) Marks (B1) (Nonriver ment Deposits (B2) (No	s: icator is 12") ine)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi	1) 12) ebrates (B1 ide Odor (C	3) 21) (w/in		Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1	or more required) verine) 2) (Riverine) verine) 0) ble (C2)
Wetland Primary i Surfa High Satura Water Sedin	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) Marks (B1) (Nonriver nent Deposits (B2) (No	s: icator is 12") ine) phriverin	sufficient) Salt Crust (B1 ⁻ Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp	1) 12) ebrates (B1 ide Odor (C wheres along educed tro	3) C1) (w/in ∟iving Roo	- 12") ts (C3)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C	r more required) rerine) 2) (Riverine) verine) 0) ble (C2) 7)
Wetland Primary i Surfa High Satura Water Sedin Drift I Surfa	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6)	s: icator is 12") ine) phriverin rine)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Recent Iron Re	1) 12) ebrates (B1 ide Odor (C wheres along educed Iro educed Iro	3) C1) (w/in ∟iving Roo n (C4) Plowed	- 12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Cravfish Bu	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 water Ta Surface (C rrows (C8)	r more required) /erine) 2) (Riverine) verine) 0) ble (C2) 7)
Wetland Primary i Surfac High V Satur: Water Sedin Drift I Surfac	Hydrology Indicators ndicators (any one indice water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver ment Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6)	s: icator is 12") ine) onriverin rine) env (87)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Recent Iron Re Other (Explain	1) 12) ebrates (B1 ide Odor (C wheres along educed Iro educed Iro eduction in	3) C1) (w/in Living Roo n (C4) Plowed	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 water Ta Surface (C rrows (C8) /isible on (or more required) verine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imageny (C9)
Wetland Primary i Surfac High V Satur: Water Sedin Drift [Surfac Inunda	Hydrology Indicators ndicators (any one indice of the second seco	s: icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Recent Iron Re Other (Explain	1) 12) ebrates (B1 ide Odor (C wheres along l educed Iro educed Iro eduction in in Remark	3) C1) (w/in Living Roo n (C4) Plowed s s)	- 12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation V	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C rrows (C8) /isible on /	or more required) verine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)
Wetland Primary i Surfar High V Satur Water Sedin Drift [Surfar Inunda	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9)	s: icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of Re Recent Iron Re Other (Explain	1) 12) ebrates (B1 ide Odor (C wheres along educed Iro educed Iro eduction in in Remark	3) C1) (w/in Living Roo n (C4) Plowed - s)	- ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aq	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5	or more required) verine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)
Wetland Primary i Surfac High V Satura Watel Sedin Drift I Surfac Inunda Watel	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imag r-Stained Leaves (B9) servations:	s: icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of R Recent Iron Re Other (Explain	1) 12) ebrates (B1 ide Odor (C oheres along l educed Iro educet Iro eduction in in Remark	3) C1) (w/in Living Roo n (C4) Plowed s)	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5	or more required) /erine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)
Wetland Primary i Surfac High V Satura Watel Sedin Drift E Surfac Inunda Watel	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imager r-Stained Leaves (B9) servations: Water Present?	s: icator is 12") ine) onriverir rine) ery (B7)	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of Recent Iron Re Other (Explain	1) 12) ebrates (B1 ide Odor (C oheres along l educed Iro educed Iro eduction in in Remark	3) C1) (w/in Living Roo n (C4) Plowed s)	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 o s (B1) (Riv eposits (B its (B3) (Ri atterns (B1 Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5	or more required) /erine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)
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Wetland Primary i Surfac High V Satura Water Sedin Drift E Surfac Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Texture and Texture and S - sond	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) servations: Water Present? able Present? able Present? apillary fringe) tecorded Data (stream gua 	s: icator is ine) onriverin rine) ery (B7) Yes Yes ge, moni	sufficient) Salt Crust (B1 Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of R Recent Iron Re Other (Explain No X De No X De (1 oring well, aerial photos, previo	1) 12) ebrates (B1 ide Odor (C oheres along educed Iro eduction in in Remark epth (inches) 2 inch determ ous inspectio	3) C1) (w/in Living Roon n (C4) Plowed s) s)	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 o s (B1) (Riv veposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5 Yes	r more required) verine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)) No X xcb - extremely cobbly st - stony
Wetland Primary i Surfac High V Satura Water Sedin Drift E Surfac Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Texture and Texture and S - coarses s - sand fs - fine samu	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imager -Stained Leaves (B9) servations: Water Present? abile Present? abile Present? apillary fringe) tecorded Data (stream gua tecorded Data (stream gua	s: icator is ine) onriverin rine) ery (B7) Yes Yes ge, moni ge, moni	sufficient) Salt Crust (B1' Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of Recent Iron Re Other (Explain No X De No X De (1 oring well, aerial photos, previo sI - sandy loam fsI - fine sandy loam vfsI - very fine sandy	1) 12) ebrates (B1 ide Odor (C oheres along educed Iro eduction in in Remark epth (inches) epth (inches) 2 inch determ ous inspectio	3) C1) (w/in Living Roon n (C4) Plowed s) s)	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 o s (B1) (Riv veposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5 Yes Yes	xcb - extremely cobbly st - stony ver y st - very stony
Wetland Primary i Surfar High V Satura Water Sedin Drift E Surfar Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Texture and Texture and s - sine sand vfs - very fin	Hydrology Indicators ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) servations: Water Present? able Present? n Present? apillary fringe) tecorded Data (stream gua cecorded Data (stream gua is - loamy sand d Ifs - loamy fine s e sand Icos - loamy coa is - loamy fine s e sand Ivfs - loamy very cosl - coarse sar	s: icator is ine) onriverin rine) ery (B7) Yes Yes ge, moni ge, moni	sufficient) Salt Crust (B1' Biotic Crust (B Aquatic Inverte Hydrogen Sulfi e) Oxidized Rhizosp Presence of Recent Iron Re Other (Explain No X De No X De (1 oring well, aerial photos, previo sI - sandy loam fsI - fine sandy loam fsI - very fine sand I - loam sil - silt ham	1) 12) ebrates (B1 ide Odor (C oheres along educed Iro eduction in in Remark epth (inches) epth (inches) 2 inch determ ous inspectio n dy loam	3) C1) (w/in Living Roo n (C4) Plowed s s) controls side side side side side side side side	12") ts (C3) Soil (C6) Wetlar Prese lable: lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 o s (B1) (Riv reposits (B its (B3) (Ri atterns (B1 o Water Ta Surface (C rrows (C8) /isible on / uitard (D3) al Test (D5 Yes Yes	r more required) verine) 2) (Riverine) verine) 0) ble (C2) 7) Aerial Imagery (C9)) No X xcb - extremely cobbly st - stony vst - very stony xst - extremely stony

4/23/2008

َ e <u>هُکَ</u> Jones & Stokes

Project/Site:	East-West Cor	nector			City/County	y: Alamed	а		Data Point:	2C-4	
Applicant/Owner:	ACTA						State:	CA	Date:	3/25/2008	3
Investigator(s):	R. Preston				Section,	Township,	Range:		T4WS, R1W	,	
Landform (hillslop	e, terrace, etc.):	basin		Loc	- cal relief (cor	ncave, conv	/ex, none):	convex	(Slope (%)	: 0
Subregion (LRR):	LRR C			Lat		Long:	_			Datum	:
Soil Map Unit Nan	ne: Clear La	ke clay, 0-2%	% slopes					NWI cl	assification:		
Are climatic / hvdr	ologic conditions on	the site typic	al for this	time of vear?	Yes	х	No		(If no. expla	ain in Rema	arks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norm	al Circumst	ances"	present?	✓ YES	
Are Vegetation	Soil X c	or Hydrology		naturally pr	oblematic?	(If need	ded. explair	n anv ai	nswers in Re	emarks)	
SUMMARY O		Attach site r	nan show	ing sampling r	oint locatio	ons transe	cts impor	tant fe	atures etc.		
	tation Dresont?	Vaa					<u></u> ,				
Hydric Soil Preser	nt?	Yes			-	Is the Sam	pled Area				
Wetland Hydrolog	y Present?	Yes		No X		within a w	etland?	Yes		No	X
Remarks:											
	Recently developed w	retlands									
VEGETATIO	N										
Tree Stratum (scie	entific names) woodu	nlants >3" dbh	Absolute % Cover	Dominant Species?	Indicator Status	Domin	ance Test	works	neet:		
1.			70 00101	Opened :	Olalus	Numbe	r of Domin	ant Spe	ecies		
2.						That ar	e OBL, FA	CW, or	FAC:	0	(A)
3.											
4.						Total N	lumber of D	Dominai	nt		
Sapling/Shrub Str	l stum (woody plants	otal Cover:				Specie	s Across A	Il Strata	1	2	(B)
1.	atum (woody plants					Percen	t of Domina	ant Spe	cies		
2.						that are	e OBL, FAC	CW, or I	FAC	0%	(A/B)
3.											
4.						Preval	ence index	works	sheet		
5.	_					l ot	al % Cover	of:	Multip	bly by:	_
Liste Otrasticas (a.s.	 	otal Cover:	-)				ecies		x 1 =	0	_
Herb Stratum (nor	n-woody plants, rega		<u>e)</u>	V	FACU	FACW	species		X Z =	0	_
2. Bromus diandrus			20	T V					x 4 =	0	_
3. Picris echioides				N	FAC				x 5 -	0	_
4 Beta vulgarus			<1	N		Colum	n Total:	0	(A)	0	(B)
5. Geranium dissectur	n		<1	N	UPL		Prevale	ence Inc	dex = B/A =	#DIV/0!	_(-)
6. Lolium multiflorum			<1	Ν	FAC						_
7.						Hydrop	ohytic vege	etation	indicators		
8.						N	Dominance	e test is	s >50%		
	Т	otal Cover:					Prevalence	e index	is <u><</u> 3.0 ¹		
Woody Vine Strate	um (regardless of siz	<u>ze)</u>					Morpholog data in Rema	ical ada arks or or	aptations ¹ (P n a separate sh	rovide suppo neet)	rting
1.							Problemat	ic Hydro	ophytic Vege	etation ¹ (Ex	(plain)
2.						¹ Indicat	tors of hydr	ic soils	and wetland	d hydrology	/
	Т	otal Cover:			1		must be pr	resent			
						Hydrop	ohytic				
% Bare ground in	Herb Stratum	%	Cover of	Biotic Crust		Vegeta	ition				
						Preser	nt?	Yes		No	X
Remarks:											

SOIL										Data point	2C-4
Profile D	escription: (Des	cribe to the	e depth ne	eded to do	cument t	he inc	dicator o	or confir	m the absence	of indicat	ors)
Depth	Matrix				Redox	Featu	ires				
(inches)	Color (mois	t) %	C	olor (moist)	- riouo,	%	Type ¹	1 oc^2	Contrast ³	Texture	Comments
0.40		, ,,				70	1) p 0	200	Contract	1 Oxtor O	Commente
0-18	101R 3/1									C	
	m_Concentration	a off moo	e: C n_Cor	acontration	nodulo/c	onoro	tion: D-	Dopletion	PM-Reduced	Motrix	
² l ocatior	• PI =Pore Lining	1 RC=Root	Channel M	M=Matrix	- nouule/c	³ Cont	rast: f=f	aint: d=d	istinct: n=nromi	nent (see T:	able A1 for definitions)
Hvdric S	oil Indicators: (A	policable to	all LRRs. u	inless other	wise note	ed.)	1401. 1–1	unit, u–u	Indicators for P	roblematic	Hvdric Soils: ⁴
Histos	sol (A1)			Sandy Red	dox (S5)	,			1 cm Muck	(A9) (LRR	C)
Histic	Epipedon (A2)			Stripped N	atrix (S6))			2 cm Muck	(A 10) (LR	R B)
Black	Histic (A3)			Loamy Mu	cky Mine	, ral (F1)		Reduced V	ertic (F18)	,
Hydro	gen Sulfide (A4)			Loamy Gle	eyed Matr	ix (F2))		Red Parent	Material (TF2)
Stratif	fied Layers (A5) (I	RR C)		Depleted N	/latrix (F3	3)			Other (Expl	ain in Rem	arks)
Deple	ted Below Dark S	urface (A11)	Redox Dar	k Surface	e (F6)					
Thick	Dark Surface (A1	2)		Depleted E	Dark Surfa	ace (F	7)		Listed on N	ational/Loo	cal Hydric Soils List
Sandy	y Mucky Mineral (S1)		Redox Dep	pressions	; (F8)			⁴ Indicators of hydr	ophytic vege	tation and
Sandy	Gleyed Matrix (S	54)		Vernal Poo	DI (F9)				wetland hydrology	must be pre	sent
Restrictive	Layer (if present):										
Depth	(inches):							Hydrid	Soil Present?	Yes	No X
Remarks	·										
rtomanto											
	<u></u>										
HYDR	OLOGY										
Primary i	ndicators (any on	ators: e indicator i	s sufficient)					Secondary Indi	icators (2 c	r more required)
Surfa	ce Water (A1)		o oumoient	Salt Crust	(B11)			-	Water Mark	(B1) (Riv	verine)
High	Water Table (A2)	(w/in 12")		Biotic Crus	() st (B12)				Sediment D	eposits (B	2) (Riverine)
Satura	ation (A3)	(Aquatic Inv	/ertebrate	es (B1	3)		Drift Depos	its (B3) (Ri	verine)
Water	Marks (B1) (Non	riverine)		Hvdrogen	Sulfide O	dor (C	-) (w/in	12")	Drainage P	atterns (B1	0)
Sedim	nent Deposits (B2) (Nonriveri	ne)	Oxidized Rhi	zospheres	along L	_iving Roo	, ts (C3)	Dry-Seasor	n Water Ta	ble (C2)
Drift D	Deposits (B3) (Nor	nriverine)	·	Presence	of Reduce	ed Iror	n (C4)		Thin Muck	Surface (C	7)
Surfa	ce Soil Cracks (B	6)		Recent Iro	n Reducti	ion in	Plowed	Soil (C6)	Crayfish Bu	irrows (C8)	
Inunda	tion Visible on Aerial	Imagery (B7)		Other (Exp	lain in Re	emark	s)		Saturation '	Visible on <i>i</i>	Aerial Imagery (C9)
Water	r-Stained Leaves	(B9)							Shallow Aq	uitard (D3)	
									FAC-Neutra	al Test (D5)
Field Ob	servations:										
Surface \	Nater Present?	Yes	No	X	Depth (ii	nches):					
Water Ta	ble Present?	Yes	No	X	Depth (ii	nches):		Wetlar	d Hydrology		
Saturatio	n Present?	Yes	No	X	Depth (ii	nches):		Prese	nt?	Yes	No X
(includes c	apillary fringe) recorded Data (strear	n quage mon	itoring well a	erial photos r	(12 inch	determ	nination)	lahle:			
2000112011	ooolada Dala (olloa)	n gaage, men	itering tren, e	kondi priotoo, p		speener	10), ii ara				
Pomorke											
Remarks											
Texture and	d Rock Fragment Con	tent									
Texture	-								Rock Fragmer	nts	
cos - coarse	sand Icos - Ioan	y coarse sand		sl - sandy loar	n		scl - sand	y clay loam	gr - gravelly		xcb - extremely cobbly
s - sand fs - fine sand	Is - loamy	sand fine sand		tsi - tine sandy	/ ioam sandv loam		ci - clay lo sicl - silty	am clav loam	vgr - very grave	aravelly	st - stony vst - very stony
vfs - very fin	e sand lvfs - loam	y very fine sand	i	I - loam	Landy IOan		sc - sandy	/ clay	cb - cobbly	5.0.0my	xst - extremely stony
	cosl - coar	se sandy loam		sil - silt loam			sic - silty o	clay	vcb - very cobb	ly	
				si - silt			c - clay				

e <u>هَنَهُ</u> **WETL** Jones & Stokes

Project/Site:	East-We	st Connector			City/Count	y: Alameda	I		Data Point:	2C-5	
Applicant/Owner:	ACTA						State:	СА	Date	3/25/200	В
Investigator(s):	R. Preston				Section,	Township, F	Range:		T4WS, R1V	v	
Landform (hillslop	e, terrace, etc	.): basin		Lo	_ cal relief (coi	ncave, conve	ex, none):	concav	/e	Slope (%)): 0
Subregion (LRR):	LR	RC		Lat	:	Long:	-			Datum	n:
Soil Map Unit Nan	ne: Cle	ear Lake clav. 0-2	% slopes					NWI cl	assification:		
Are climatic / hvdr	ologic conditio	ons on the site typi	cal for this	time of vear?	Yes	х	No		(If no. expla	ain in Rema	arks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norma	l Circumst	ances"	present?	✓ YES	
Are Vegetation	Soil	x or Hydrology		naturally pr	oblematic?	(If need	ed. explain	anv ai	nswers in R	emarks)	
SUMMARY O		GS - Attach site	man show	vina samplina i	noint locatio	ons transec	ets import	tant fo:	aturas atc	ernante)	
			N N	No.			no, import				
Hydropnytic Veger	tation Present	Yes	X X	NO NO	_	Is the Sam	pled Area				
Wetland Hydrolog	y Present?	Yes	Х	No		within a we	etland?	Yes	Х	No	
Remarks:						<u>.</u>					
	Recently deve	eloped wetlands									
VEGETATIO	N										
Tree Stratum (scie	antific names)	woody planta > 2" dbb	Absolute	Dominant	Indicator Status	Domina	ince Test	worksl	heet:		
1	enunc namesj	woody plants >3 dbr	% Cover	Species	Status	Number	of Domina	ant Spe	ecies		
2.						That are	e OBL, FA	CW, or	FAC:	2	(A)
3.						-					
4.						Total Nu	umber of D	omina	nt		
Conling/Chruch Chr	otum (woodu	Total Cover:				Species	Across Al	I Strata		3	_(B)
sapling/Shrub Stra	atum (woody	plants <3 dbh)				Percent	of Domina	ant Sne	ries		
2.			-			that are	OBL, FAC	W, or I	FAC	67%	(A/B)
3.											
4.			-			Prevale	nce index	works	sheet		
5.			a <u></u>			Tota	al % Cover	of:	Multi	oly by:	_
		Total Cover:				OBL spe	ecies _		x 1 =	0	_
Herb Stratum (nor	n-woody plant	s, regardless of siz	<u>:e)</u>		54.0	FACW S	species		x 2 =	0	_
A Right action of the second sec	subsp. gussonea	num	40	Y	FAC				x 3 =	0	_
2. Picris echioldes	m		20	T V					x 4 =	0	_
4 Avena fatua			<1	N		Column	Total: ()	(A)	0	(B)
5. Vicia sativa			<1	N			Prevale	nce Inc	 dex = B/A =	#DIV/0!	_(=)
6. Lotus corniculatus			<1	N	FAC						
7. Senecio vulgaris			<1	N	NI	Hydrop	hytic vege	etation	indicators		
8. Rumex crispus			<1	N	FACW	Y [Dominance	e test is	\$ >50%		
		Total Cover:	100%			F	Prevalence	e index	is <u><</u> 3.0 ¹		
Woody Vine Strat	um (regardles	s of size)				1	Morpholog	ical ada	aptations ¹ (F	Provide suppo	orting
	uni (regarales	<u>s or size</u>					Data in Keina Droblomati	c Hydr	na separate si	etation ¹ (E	volain)
2							ors of hydr	ic soile	and wetlen		/
		Total Cover				ricical	must be pr	esent	and wouldh	anyarolog	,
						Hydrop	hvtic				
% Bare around in	Herb Stratum	O,	6 Cover of	Biotic Crust		Vegetat	tion				
g.ound in	endernin	/				Present	t?	Yes	X	No	
Remarks:						<u> </u>				_	

								Data point	:: <u>2C-5</u>			
Profile D	escription: (Describe	e to the	depth needed to document	the inc	dicator o	or confir	m the absence	of indicat	tors)			
Denth	Depth Matrix Redox Features											
(inches)	Color (moist)	9/-	Color (moist)	0/		1 oc^2	Contract ³	Toxturo	Commente			
		/0		/0	туре	LUC	Contrast	Texture	Comments			
0-8	10YR 3/1							cl				
8-18	10YR 4/1							с				
¹ Type: C	-m=Concentration - sc	oft mass	; C-n=Concentration - nodule/	concre	tion; D=	Depletior	n; RM=Reduced	Matrix				
² Locatior	n: PL=Pore Lining, RC	=Root	Channel, M=Matrix	³ Cont	rast: f=f	aint; d=d	istinct; p=promir	nent (see Ta	able A1 for definitions)			
Hydric S	oil Indicators: (Applica	able to a	III LRRs, unless otherwise not	ed.)			Indicators for P	roblematic	c Hydric Soils:⁴			
Histos	sol (A1)		Sandy Redox (S5)				1 cm Muck	(A9) (LRR	(C)			
Histic	Epipedon (A2)		Stripped Matrix (S6	5)			2 cm Muck	(A 10) (LR	RR B)			
Black	Histic (A3)		Loamy Mucky Mine	eral (F1)		Reduced V	ertic (F18)	TEO			
Hydro	ogen Sulfide (A4)		Loamy Gleyed Mat	rix (F2))		Red Parent	Material (IF2)			
Stratif	ted Layers (A5) (LRR	C)	Depleted Matrix (F	5) - (EC)			x Other (Expl	ain in Rem	narks)			
	Ted Below Dark Surface	ce (A11)	Redox Dark Surfac	e (⊢6)	7)		1 (at a st a st b)	otion of //	ool Lludvin Onlin Lint			
	Dark Surface (A12)		Depleted Dark Sur		()		Listed on N	ational/Loo	cal Hydric Solis List			
Sandy	Gloved Matrix (S1)		Verbal Bool (EQ)	5 (F8)			indicators of hydr	opnytic vege	etation and			
Sanuy							wettand hydrology	must be pre	esem			
Restrictive	Layer (if present):											
Depth ((inches):			-		Hvdrid	c Soil Present?	Yes	XNO			
Pemarke	Matrix clightly deploted	although	rodov fosturos pot ovidopt									
Remarks	. Matrix slightly depleted,	, annougr	redox reatures not evident									
HYDR	OLOGY											
Wetland	Hydrology Indicators	s:										
Primary in												
- mary I	ndicators (any one ind	icator is	sufficient)			-	Secondary Indi	cators (2 c	or more required)			
Surfac	ce Water (A1)	icator is	sufficient)Salt Crust (B11)			-	Secondary Indi	cators (2 c s (B1) (Riv	or more required) verine)			
Surface	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in	icator is 12")	sufficient) Salt Crust (B11) Biotic Crust (B12)			-	Secondary Indi Water Mark	<u>cators (2 c</u> s (B1) (Riv eposits (B	or more required) verine) 82) (Riverine)			
Surface	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3)	icator is 12")	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat	es (B1	3)		Secondary Indi Water Mark Sediment D Drift Depos	<u>cators (2 c</u> is (B1) (Riv eposits (B its (B3) (R	or more required) verine) 32) (Riverine) iverine)			
Surfac High \ Satura XWater	rdicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriveri	i <u>cator is</u> 12") ine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C	es (B1)dor (C	3) :1) (w/in	- 12")	Secondary Indi Water Mark Sediment D Drift Depos	cators (2 c is (B1) (Riv eeposits (B its (B3) (R atterns (B	or more required) verine) 32) (Riverine) iverine) 10)			
Surfac High \ Satura X Sedim	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriveri nent Deposits (B2) (No	icator is 12") ine) phriverin	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres	es (B1)dor (C along L	3) 3) (w/in Living Roo	12") ts (C3)	Secondary Indi Water Mark Sediment D Drift Depos Drainage P Dry-Seasor	cators (2 c is (B1) (Riv eeposits (B its (B3) (R atterns (B ² o Water Ta	or more required) verine) 32) (Riverine) iverine) 10) uble (C2)			
Surfac High \ Satura X Water Sedim Drift D	rdicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriveri nent Deposits (B2) (No Deposits (B3) (Nonriver	icator is 12") ine) phriverin rine)	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduc	es (B1)dor (C along L red Iror	3) C1) (w/in Living Roo 1 (C4)	- 12") ts (C3)	Secondary Indi Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Thin Muck S	cators (2 c is (B1) (Riv peposits (B its (B3) (R atterns (B n Water Ta Surface (C	or more required) verine) 32) (Riverine) iverine) 10) able (C2) 57)			
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Surface High \ Satura X Water Sedim Drift D Surface Inunda Water Field Ob Surface \ Water Ta Saturatio (includes ca Describe R Remarks Remarks Cos - coarse s - sand fs - fine sand	Adicators (any one indice of the indice of t	icator is icator is ine) onriverin rine) ery (B7) Yes Yes ge, monit ses etiola	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X No X Depth (Indicate the stress sl - sandy loam vfsl - very fine sandy loam	es (B1)dor (C along L ed Iror tion in emarks inches): inches): <u>a determ</u> spectior	3) c1) (w/in iving Roo n (C4) Plowed : s) ination) rs), if avai c1 - clay lo sicl - sandy	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation V Shallow Aq FAC-Neutra dHydrology nt?	cators (2 c is (B1) (Riv peposits (B its (B3) (R atterns (B3) n Water Ta Surface (C irrows (C8 visible on v uitard (D3) al Test (D5 Yes Yes	xcb - extremely cobbly st - stony vst - very stony			
Surface High \ Satura X Water Sedim Drift D Surface Inundai Water Field Ob Surface \ Water Ta Saturatio (includes cr Describe R Remarks Remarks Cos - coarse s - sand fs - fine sand vfs - very fin	Adicators (any one indicators (any one indicators (any one indice ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonrivering the indicators (B2) (No Deposits (B3) (Nonrivering the indicators (B3) (Nonrivering the indicators (B3) (Nonrivering the indicators (B3)) servations: Water Present? In Present In Present? In Present In Present? In Present In	icator is icator is 12") ine) onriverin rine) ery (B7) Yes Yes ge, monit ses etiola rse sand and fine sand	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X No X Depth ((12 incl oring well, aerial photos, previous ir sl - sandy loam fsl - fine sandy loam vfsl - very fine sandy loam	es (B1)dor (C along L ed Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed : s) s) s) s) scientification sination) sination) sination sination sination sination sination	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation V Shallow Aq FAC-Neutra dHydrology nt?	cators (2 c is (B1) (Riv peposits (B its (B3) (R atterns (B2 n Water Ta Surface (C rrrows (C8 visible on v uitard (D3) al Test (D5 Yes Yes	xcb - extremely cobbly xcb - extremely cobbly xcb - extremely story			
Surface High \ Satura X Water Sedim Drift E Surface Inunda Water Field Ob Surface \ Water Ta Saturatio (includes cc (includes cc (includes cc Saturatio (includes cc Saturatio (includes cc Saturatio (includes cc Saturatio (includes cc (includes cc Saturatio (includes cc (includes cc) (includes cc) (in	Adicators (any one indice to a ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonrivering the ant Deposits (B2) (No Deposits (B3) (Nonrivering to a construction visible on Aerial Imagers) ce Soil Cracks (B6) tion Visible on Aerial Imagers r-Stained Leaves (B9) servations: Water Present? to a present? apillary fringe) tecorded Data (stream guans) tecorded Data (stream	icator is icator is 12") ine) onriverin rine) ery (B7) Yes Yes ge, monit ses etiola rse sand fine sand fine sand dy loam	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X No X Depth ((12 incl oring well, aerial photos, previous ir sl - sandy loam fsl - fine sandy loam vfsl - very fine sandy loam vfsl - very fine sandy loam sil - silt loam sil - silt loam	es (B1)dor (C ; along L red Iror tion in emarks inches): inches): n determ spectior	3) C1) (w/in Living Roo n (C4) Plowed : s) s) s) s) scientification sic - sitty of sic - sitty of sitty of sitty of sic - sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of sitty of si	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Depos Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra dHydrology nt?	cators (2 c is (B1) (Riv peposits (B its (B3) (R atterns (B2 n Water Ta Surface (C rrrows (C8 visible on v uitard (D3) al Test (D5 Yes Yes	or more required) vverine) vverine) vverine) vverine) 10) uverine) 10) able (C2) :77) Aerial Imagery (C9) ;;) X No			

4/23/2008

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Project/Site:	East-West (Connector			City/County	y: Alamed	a		Data Point:	2C-6	
Applicant/Owner:	ACTA						State:	CA	Date:	3/25/200	8
Investigator(s):	R. Preston				Section,	Township,	Range:		T4WS, R1W	v	
Landform (hillslop	e, terrace, etc.):	basin		Loc	- cal relief (cor	ncave, conv	/ex, none):	convex	(Slope (%): 0
Subregion (LRR):		c		Lat	:	Long:	_			Datum	n:
Soil Map Unit Nam	ne: Clear	Lake clay, 0-29	% slopes					NWI cl	assification:		
Are climatic / hydro	ologic conditions	on the site typic	cal for this	time of year?	Yes	х	No		(If no, expla	ain in Rem	arks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norm	al Circumst	tances"	present?	✓ YES	
Are Vegetation	Soil X	or Hydrology		naturally pro	oblematic?	(If need	ded, explair	n any ai	nswers in Re	emarks)	
SUMMARY O		- Attach site r	nap show	ing sampling p	oint locatio	ons, transe	cts, impor	tant fea	atures, etc.	,	
Hydrophytic Veget	tation Present?	Yes									
Hydric Soil Presen	nt?	Yes			-	Is the Sam	pled Area				
Wetland Hydrolog	y Present?	Yes		No <mark>X</mark>		within a w	etland?	Yes		No	X
Remarks:											
	Pecently develop	ad wetlands									
	Recently develope	eu wellanus									
VEGETATION	N		<u></u>								1
Tree Stratum (scie	entific names) woo	ody plants >3" dbh	Absolute % Cover	Dominant Species?	Indicator Status	Domin	ance lest	works	neet:		
1.						Numbe	r of Domin	ant Spe	ecies		
2.						That ar	e OBL, FA	CW, or	FAC:	0	(A)
3.											
4.		Total Cover:				I otal N Specie	Iumber of L	Jominai Il Strata	nt 	2	(B)
Sapling/Shrub Stra	atum (woody pla	nts <3"dbh)				Opecie	3 ACI 033 A	ii Otrata		2	_(D)
1.	<u>_</u>	, , , ,				Percen	t of Domina	ant Spe	cies		
2.						that are	e OBL, FAC	CW, or l	FAC	0%	(A/B)
3.						Danual			-h (
4. 5						Tot	al % Cover	r of	Multir	olv by:	
		Total Cover						01.	x 1 =	0	_
Herb Stratum (nor	n-woodv plants. re	eqardless of siz	e)			FACW	species		x 2 =	0	_
1. Avena fatua			50	Y	UPL	FAC sp	becies		x 3 =	0	_
2. Vulpia myuros			15	N	FACU	FACU	species		x 4 =	0	
3. Geranium dissectur	n		25	Y	UPL	UPL sp	ecies		x 5 =	0	_
4. Lolium multiflorum			5	N	FAC	Colum	n Total:	0	(A)	0	(B)
5. Picris echioides			5	N	FAC	-	Prevale	ence Ind	dex = B/A =	#DIV/0!	_
6. Lactuca serriola			<1	N	FAC						
7. Vicia sativa			<1	N	UPL	Hydrop	ohytic vege	etation	indicators		
8. Bromus diandrus			<1	N	UPL	N	Dominance	e test is	s >50%		
		Total Cover:	100%				Prevalence	e index lical ada	IS $\leq 3.0^{\circ}$	rovide suppo	orting
Woody Vine Stratu	um (regardless of	f size)					data in Rema	arks or or	n a separate sh	neet)	in thing
1.							Problemat	ic Hydro	ophytic Vege	etation ¹ (E	xplain)
2.						¹ Indicat	tors of hydr	ric soils	and wetland	d hydrolog	y
		Total Cover:			1		must be pr	resent			
						Hydrop	ohytic				
% Bare ground in	Herb Stratum	%	Cover of	Biotic Crust		Vegeta	ition				
						Preser	nt?	Yes		No	X
Remarks:											

SOIL										Data point	2C-6
Profile D	escription: (Des	cribe to the	e depth ne	eded to doc	ument the	e inc	dicator o	or confir	n the absence	of indicat	ors)
Depth	Matrix				Redox F	eatu	ires				
(inches)	Color (mois	t) %	С	olor (moist)		%	Type ¹	1 oc^2	Contrast ³	Texture	Comments
0.40		,, ,,	•			/0	Type	200	Contract	1 Oxtor O	Contribution
0-18	101R 3/1									С	
	Concentration	ooft moo	o: C n_Cor			noro	tion: D-I	Dopletion	. PM-Reduced	Motrix	
² l ocatior	• PI =Pore Lining	RC=Root	Channel M	/=Matrix	³	Cont	rast: f=f	aint: d=d	i, RM=Reduced	iviality hent (see Ta	able A1 for definitions)
Hvdric S	oil Indicators: (Ar	plicable to	all LRRs. u	nless otherw	vise noted.	.)	1401. 1–1	unit, u–u	Indicators for P	roblematic	Hvdric Soils: ⁴
Histos	sol (A1)			Sandy Redo	ox (S5)	-)			1 cm Muck	(A9) (LRR	C)
Histic	Epipedon (A2)			Stripped Ma	trix (S6)				2 cm Muck	(A 10) (LR	ŔB)
Black	Histic (A3)			Loamy Mucl	ky Mineral	l (F1)		Reduced V	ertic (F18)	,
Hydro	gen Sulfide (A4)			Loamy Gley	ed Matrix	(F2))		Red Parent	Material (ΓF2)
Stratif	fied Layers (A5) (L	RR C)		Depleted Ma	atrix (F3)				Other (Expl	ain in Rem	arks)
Deple	ted Below Dark S	urface (A11)	Redox Dark	Surface ((F6)					
Thick	Dark Surface (A1	2)		Depleted Da	ark Surfac	e (F	7)		Listed on N	ational/Loc	al Hydric Soils List
Sandy	y Mucky Mineral (S1)		Redox Depr	ressions (F	F8)			⁴ Indicators of hydr	ophytic vege	tation and
Sandy	Gleyed Matrix (S	54)		Vernal Pool	(F9)				wetland hydrology	must be pre	sent
Restrictive	Layer (if present):										
Depth	(inches):							Hydrid	Soil Present?	Yes	No X
Remarks	·							,			
rtomanto											
	<u></u>										
HYDR	OLOGY										
Primary i	ndicators (any one	ators: aindicator i	s sufficient						Secondary Indi	cators (2 c	r more required)
Surfa	ce Water (A1)		5 Sumoloni,	, Salt Crust (F	311)			•	Water Mark	(B1) (Riv	verine)
High	Water Table (A2)	(w/in 12")		Biotic Crust	(B12)				Sediment D	eposits (B	2) (Riverine)
Satura	ation (A3)	(Aquatic Inve	ertebrates	(B1:	3)		Drift Depos	its (B3) (Ri	verine)
Water	Marks (B1) (Non	riverine)		Hvdrogen S	ulfide Odd	or (C	-) (w/in	12")	Drainage P	atterns (B1	0)
Sedim	nent Deposits (B2	(Nonriverir	ne)	Oxidized Rhizo	ospheres ald	ong L	iving Roo	, ts (C3)	Dry-Seasor	n Water Ta	ble (C2)
Drift D	Deposits (B3) (Nor	riverine)	·	Presence of	Reduced	l Iron	n (C4)	. ,	Thin Muck	Surface (C	7)
Surfa	ce Soil Cracks (Be	5)		Recent Iron	Reduction	n in l	Plowed \$	Soil (C6)	Crayfish Bu	rrows (C8)	
Inunda	tion Visible on Aerial	magery (B7)		Other (Expla	ain in Rem	narks	s)		Saturation '	visible on <i>l</i>	Aerial Imagery (C9)
Water	-Stained Leaves	B9)							Shallow Aq	uitard (D3)	
									FAC-Neutra	al Test (D5)
Field Ob	servations:										
Surface \	Nater Present?	Yes	No	X	Depth (incl	hes):					
Water Ta	ble Present?	Yes	No	X	Depth (incl	hes):		Wetlan	d Hydrology		
Saturatio	n Present?	Yes	No	X	Depth (incl	hes):		Prese	nt?	Yes	No X
(includes c Describe R	apillary fringe) ecorded Data (stream	n quage mon	itoring well a	erial photos pr	(12 inch de	eterm ection	ination) (s) if avail	able:			
2000112011		r guage, men	nonng tron, a	onai priotoo, pri	oriouo inope		.c), ii arai				
Pomorke											
Remarks											
Texture and	d Rock Fragment Cont	ent									
Texture	-								Rock Fragmer	nts	
cos - coarse	sand Icos - Ioam	y coarse sand		sl - sandy loam			scl - sandy	/ clay loam	gr - gravelly	. 11	xcb - extremely cobbly
s - sand fs - fine sand	Is - loamy : d Ifs - loamy	sand fine sand		tsi - tine sandy le	oam andv loam		ci - clay lo	am clav loam	vgr - very grave	aravellv	st - stony vst - verv stony
vfs - very fin	e sand lvfs - loam	very fine sand	I	I - loam			sc - sandy	clay	cb - cobbly	5. a. o.,	xst - extremely stony
	cosl - coar	se sandy loam		sil - silt loam			sic - silty c	lay	vcb - very cobb	ly	
				si - silt			c - clay				

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WETLAND DETERMINATION FORM - Arid West Region

Project/Site:	East-West C	Connector			City/County	y: Alamed	a		Data Point:	2C-7	
Applicant/Owner:	ACTA						State:	CA	Date:	3/25/200	8
Investigator(s):	R. Preston				Section,	Township,	Range:		T4WS, R1W	v	
Landform (hillslop	e, terrace, etc.):	basin		Loc	al relief (cor	ncave, conv	/ex, none):	convex	(Slope (%): 0
Subregion (LRR):		;		Lat		Long:	_			Datum	n:
Soil Map Unit Nan	ne: Clear	Lake clay, 0-2%	% slopes					NWI cl	assification:		
Are climatic / hydr	ologic conditions	on the site typic	al for this	time of year?	Yes	х	No		(If no, expla	ain in Rem	arks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norm	al Circumst	ances"	present?	✓ YES	
Are Vegetation	Soil X	or Hydrology		naturally pro	oblematic?	(If need	ded, explair	n any ar	' nswers in Re	emarks)	
SUMMARY O		- Attach site r	nap show	ing sampling r	oint locatio	ons, transe	cts, impor	, tant fea	atures, etc.	,	
Hydrophytic Veget	tation Present?	Yes	•				<i>,</i> ,				
Hydric Soil Preser	nt?	Yes		No X		Is the Sam	pled Area				
Wetland Hydrolog	y Present?	Yes		No <mark>X</mark>		within a w	etland?	Yes		No	X
Remarks:											
	Pecently develops	d wetlands									
	Recently develope	a wellands									
VEGETATIO	N										
Tree Stratum (scie	entific names) woo	dv plants >3" dbh	Absolute % Cover	Dominant Species?	Indicator Status	Domin	ance Test	worksł	neet:		
1.						Numbe	r of Domin	ant Spe	ecies		
2.						That ar	e OBL, FA	CW, or	FAC:	0	(A)
3.											
4.		Total Cover				Total N	lumber of D	Dominar	nt		(P)
Sapling/Shrub Stra	atum (woody pla	nts <3"dbh)				Specie	S ACIUSS A	ii Sirala		2	_(D)
1.						Percen	t of Domina	ant Spe	cies		
2.						that are	e OBL, FAC	CW, or I	FAC	0%	(A/B)
3.									_		
4. 5						Preval	ence index	works	sheet	alu bu	
5.		Total Covor:						01.		o o	_
Herb Stratum (nor	n-woody plants re	ardless of size	e)			FACW	species		x 2 =	0	_
1. Bromus diandrus	n woody plants, re		60	Y	UPL	FAC sr	ecies		x 3 =	0	_
2. Geranium dissectur	n		40	Y	UPL	FACU	species		x 4 =	0	_
3. Tragopogon sp.			<1	N	UPL	UPL sp	becies		x 5 =	0	_
4. Picris echioides			<1	Ν	FAC	Colum	n Total:	0	(A)	0	(B)
5. Rumex crispus			<1	N	FACW		Prevale	ence Inc	lex = B/A =	#DIV/0!	
6.											
7.						Hydrop	ohytic vege	etation	indicators		
8.							Dominance	e test is	>50%		
		Total Cover:	100%				Prevalence	e index	is <u><</u> 3.0 ¹		
Woody Vine Strate	um (regardless of	<u>size)</u>					data in Rema	arks or or	aptations (P a separate sh	rovide suppo neet)	orting
1.							Problemat	ic Hydro	ophytic Vege	etation ¹ (E	xplain)
2.						¹ Indicat	tors of hydr	ic soils	and wetland	d hydrolog	y
		Total Cover:			I		must be pr	resent			
			_			Hydrop	ohytic				
% Bare ground in	Herb Stratum	%	Cover of	Biotic Crust		Vegeta	ition	Vac		NI-	×
_						Preser	11.1	res		NO	~
Remarks:											

US Army Corps of Engineers

SOIL									Data point:	2C-7
Profile D	escription: (I	Describe to the	e depth ne	eded to docum	ent the ind	dicator of	or confirr	n the absence	of indicate	ors)
Depth	Matr	ix		R	edox Featu	ires				
(inches)	Color (m	noist) %	C	Color (moist)	<u>%</u>	Type ¹	1 oc^2	Contrast ³	Texture	Comments
0.19	10VP 2/1	10101/ 10			70	.) p o	200	Contract	- Critici C	Commonito
0-18	101K 3/1								U.	
¹ Type: C	-m=Concentra	ation - soft mas	s; C-n=Co	ncentration - noc	dule/concre	tion; D=	Depletion	; RM=Reduced	Matrix	
² Location	n: PL=Pore Li	ning, RC=Root	Channel,	M=Matrix	³ Cont	rast: f=f	faint; d=di	stinct; p=promir	nent (see Ta	ble A1 for definitions)
Hydric S	oil Indicators:	(Applicable to	all LRRs, u	unless otherwise	noted.)			Indicators for P	roblematic	Hydric Soils: ⁴
Histos	sol (A1)			Sandy Redox (S5)		-	1 cm Muck	(A9) (LRR	C)
Histic	Epipedon (A2			_Stripped Matrix	(S6)		-	2 cm Muck	(A 10) (LR	R B)
Black	Histic (A3)			Loamy Mucky I	Mineral (F1)	-	Reduced Vo	ertic (F18)	
Hydro Strotif	gen Sulfide (A	(1 PP C)		Loamy Gleyed	Matrix (F2))	-	Red Parent	Material (I	F2) orko)
Oralli	ited Below Da) (LKK C) rk Surface (Δ1)	n —	Bedox Dark Su	x (F3) Irface (F6)		_			diks)
Thick	Dark Surface	(A12)	')	Depleted Dark	Surface (F	7)		l isted on N	ational/I oc	al Hydric Soils List
Sandy	Mucky Miner	al (S1)		Redox Depress	sions (F8)	.,	-	⁴ Indicators of hydr	ophytic veget	ation and
Sandy	Gleyed Matri	x (S4)		Vernal Pool (F	9)			wetland hydrology	must be pres	sent
Restrictive	Layer (if present):								
Type:										
Depth ((inches):						Hydric	Soil Present?	Yes	No X
Remarks	:									
HYDR	OLOGY									
Wetland	Hydrology In	dicators:								
Primary in	ndicators (any	one indicator	s sufficient	t)				Secondary Indi	cators (2 o	r more required)
Surfac	ce Water (A1)			Salt Crust (B11)		-	Water Mark	s (B1) (Riv	erine)
High \	Water Table (A	A2) (w/in 12")		Biotic Crust (B	12)	- 1	-	Sediment D	eposits (B2	2) (Riverine)
Satura	ation (A3)			_ Aquatic Inverte	brates (B1	3)	(Drift Depos	its (B3) (Riv	verine)
Water	Marks (B1) (I	Nonriverine)		_Hydrogen Sulfi	de Odor (C	:1) (w/in	12")	Drainage P	atterns (B1	0)
Sedim	nent Deposits	(B2) (Nonriveri	ne)	Oxidized Rhizospi	heres along L		its (C3)	Dry-Seasor	N vvater Tat	DIE (C2)
DIIIL L	co Soil Crocks			Presence of Re	duction in	I (C4) Plowed	Soil (CG)			()
	tion Visible on A	rial Imagery (B7)		Other (Explain	in Remark	s)	5011 (00)	Saturation \	/isible on A	erial Imagery (C9)
Water	r-Stained Leav	es (B9)			minternant	0)	-	Shallow Ag	uitard (D3)	tenar integery (66)
		00 (20)					-	FAC-Neutra	al Test (D5)	
Field Ob	servations:									
Surface V	Nater Present	? Yes	No	D <mark>X</mark> De	pth (inches):					
Water Ta	ble Present?	Yes	No	D <mark>X</mark> De	pth (inches):		Wetlan	d Hydrology		
Saturatio	n Present?	Yes	No	D <mark>X</mark> De	pth (inches):		Preser	nt?	Yes	No X
(includes c	apillary fringe)			(12	2 inch determ	ination)				
Describe R	ecorded Data (st	ream guage, mor	utoring well, a	aerial photos, previo	ous inspection	ns), if avai	lable:			
_										
Remarks	:									
Texture and	Rock Fragmont	Content								
Texture	a noon maginefit	oomont						Rock Fragmer	its	
cos - coarse	sand Icos -	loamy coarse sand		sl - sandy loam		scl - sand	y clay loam	gr - gravelly		xcb - extremely cobbly
s - sand	ls - loa d lfe - loa	amy sand amy fine sand		fsl - fine sandy loam	i v loam	cl - clay lo	am clav loam	vgr - very grave	elly gravelly	st - stony vst - verv stony
vfs - very fin	e sand lvfs - l	oamy very fine san	d	I - loam	, 100111	sc - sandy	/ clay	cb - cobbly	Surrain	xst - extremely stony
	cosl -	coarse sandy loam		sil - silt loam		sic - silty o	clay	vcb - very cobb	ly	
				sı - sılt		c - clay				

e <u>مَنْهُ</u> **WETL** Jones & Stokes

Project/Site:	East-West Connector			City/Count	y: Alameda		Data Point:	2C-8	
Applicant/Owner:	АСТА			_	State:	СА	Date:	3/25/2008	
Investigator(s): R.	Preston			Section,	Township, Range:		T4WS, R1W	I	
Landform (hillslope, te	errace, etc.): basin		Loc	- al relief (cor	ncave, convex, none)	conca	/e	Slope (%)	: 0
Subregion (LRR):			Lat		Lona:			Datum	:
Soil Map Unit Name	Clear Lake clay 0-2	% slones				NWI d	assification:		
Are climatic / hydrolog	ic conditions on the site typi	cal for this t	ime of year?	Yes	X No			ain in Rema	urks)
Are Vegetation	Soil or Hydrology			disturbed?	Are "Normal Circum		nresent?	✓ YES	
	Soil V or Hydrology		noturally pr	oblomatic?	(If pooded, evolution			marke)	
					(il needed, expla	rtant fa		emarks)	
		map snow	ing samping p		ons, transects, impo		atures, etc.		
Hydrophytic Vegetatio	n Present? Yes	X		-	Is the Sampled Are	а			
Wetland Hydrology Pr	esent? Yes	X	No		within a wetland?	Yes	Х	No	
Remarks:									
R	ecently developed wetlands								
VEGETATION									
		Absolute	Dominant	Indicator	Dominance Tes	t works	heet:		
<u>1 ree Stratum (scientifi</u>	C names) woody plants >3" dbh	% Cover	Species?	Status	Number of Domi	nant Sne	ocios		
2.					That are OBL, F/	ACW, or	FAC:	1	(A)
3.					Í Í	,			. ,
4.					Total Number of	Domina	nt		
	Total Cover:				Species Across A	All Strata	a:	1	(B)
Sapling/Shrub Stratum	n (woody plants <3"dbh)				Porcent of Domin	ant Sna			
2.					that are OBL. FA	CW. or	FAC	100%	(A/B)
3.					,	- , -	-		
4.					Prevalence inde	x works	sheet		
5.					Total % Cove	er of:	Multip	bly by:	_
	Total Cover:				OBL species		x 1 =	0	_
Herb Stratum (non-wo	ody plants, regardless of siz	<u>:e)</u>			FACW species		x 2 =	0	_
1. Hordeum marinum subsp	o. gussoneanum	80	Y	FAC	FAC species		x 3 =	0	_
2. Picris echioides		10	N	FAC	FACU species		x 4 =	0	_
3. Geranium dissectum		10	Y		Column Total:	0	$x = (\Lambda)$	0	(P)
5. Lolium multiflorum		<1	N	FAC	Preva	ence Ind	$\frac{(n)}{1}$		_(D)
6. Lotus corniculatus		<1	N	FAC					_
7.					Hydrophytic veg	getation	indicators		
8.					Y Dominan	- ce test is	\$ >50%		
	Total Cover:	100%			Prevalence	ce index	is <u><</u> 3.0 ¹		
Woody Vine Stratum (regardless of size)				Morpholo data in Rem	gical ad	aptations ¹ (P n a separate sh	rovide suppoi ieet)	ting
1.					Problema	tic Hydr	ophytic Vege	etation ¹ (Ex	plain)
2.					¹ Indicators of hyd	Iric soils	and wetland	d hydrology	
	Total Cover:				must be p	present			
					Hydrophytic				
% Bare ground in Herl	b Stratum	6 Cover of	Biotic Crust		Vegetation				
					Present?	Yes	Х	No	
Remarks:									

								Data point	:: 2C-8
Profile D	escription: (Describe	e to the	depth needed to document	the inc	dicator o	or confir	m the absence	of indicat	tors)
Denth	Matrix		Redo	v Foati	ILOS				
(inchoc)	Color (moist)	0/	Color (moist)	0/		1 oc^2	Contract ³	Toxturo	Commonte
		/0		/0	туре	LUC	Contrast	Texture	Comments
0-6	10YR 3/1				-			С	
6-18	10YR 4/1							с	
								1	
¹ Type: C	-m=Concentration - so	oft mass	; C-n=Concentration - nodule/	concre	tion; D=	Depletior	; RM=Reduced	Matrix	
² Locatior	n: PL=Pore Lining, RC	=Root	Channel, M=Matrix	³ Cont	rast: f=f	aint; d=d	istinct; p=promir	nent (see T	able A1 for definitions)
Hydric S	Soil Indicators: (Application	able to a	all LRRs, unless otherwise not	ed.)			Indicators for P	roblematio	c Hydric Soils: ⁴
Histos	sol (A1)		Sandy Redox (S5)				1 cm Muck	(A9) (LRR	(C)
Histic	Epipedon (A2)		Stripped Matrix (S6	5)			2 cm Muck	(A 10) (LR	RR B)
Black	Histic (A3)		Loamy Mucky Mine	eral (F1)		Reduced Ve	ertic (F18)	
Hydro	ogen Sulfide (A4)	-	Loamy Gleyed Mat	rix (F2))		Red Parent	Material (TF2)
Stratif	tied Layers (A5) (LRR	C)	Depleted Matrix (F	3)			X Other (Expl	ain in Ren	narks)
Deple	eted Below Dark Surface	ce (A11	Redox Dark Surfac	e (F6)				- 11	
	Dark Surface (A12)		Depleted Dark Sur	ace (F	7)		Listed on N	ational/Lo	cal Hydric Soils List
Sandy	y Mucky Mineral (S1)		Redox Depression:	s (F8)			Indicators of hydro	ophytic vege	etation and
Sandy	y Gleyed Matrix (54)		vernal Pool (F9)				wetland hydrology	must be pre	esent
Restrictive	Layer (if present):								
Depth	(inches):			-		Hydrid	: Soil Present?	Yes	XNo
Pomarka	Motrix alightly deploted	_	radov factures not ovident						
Remarks	 Matrix slightly depleted, 	, aitnougr	redox leatures not evident						
HYDR	OLOGY								
Wetland	Hydrology Indicators	s:							
Primary i	a dha a cana da ann a a a bhad								
- innary I	ndicators (any one ind	icator is	sufficient)			-	Secondary Indi	cators (2 c	or more required)
Surfac	ce Water (A1)	icator is	sufficient)Salt Crust (B11)			<u>.</u>	Secondary Indi	<u>cators (2 c</u> s (B1) (Ri [,]	or more required) verine)
Surface	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in	icator is 12")	sufficient) Salt Crust (B11) Biotic Crust (B12)				Secondary Indi Water Mark	<u>cators (2 c</u> s (B1) (Ri ⁱ veposits (B	or more required) verine) 32) (Riverine)
Surface High V	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3)	<u>icator is</u> 12")	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat	es (B1	3)		Secondary Indi Water Mark Sediment D Drift Deposi	cators (2 d s (B1) (Riv eposits (B its (B3) (R	or more required) verine) 32) (Riverine) iverine)
Surface High V Satura X	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver	icator is 12") ine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C	es (B1)dor (C	3) 3) (w/in	12")	Secondary Indi Water Mark Sediment D Drift Deposi	cators (2 c s (B1) (Riv eeposits (B its (B3) (R atterns (B	or more required) verine) 32) (Riverine) iverine) 10)
Surfac High V Satura X Sedim	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (Nc	icator is 12") ine) pnriverin	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres	es (B1)dor (C along L	3) 21) (w/in Living Roo	- 12") ts (C3)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season	cators (2 c s (B1) (Riv eposits (B its (B3) (R atterns (B n Water Ta	or more required) verine) 32) (Riverine) iverine) 10) vble (C2)
Surfac High \ Satura X Water Sedim Drift [ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive	i <u>cator is</u> 12") ine) pnriverin rine)	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduc	es (B1)dor (C along L æd Iror	3) 1) (w/in Living Roo 1 (C4)	- 12") ts (C3)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S	cators (2 c s (B1) (Riv reposits (B its (B3) (R atterns (B atterns (B Water Ta Surface (C	or more required) verine) 32) (Riverine) iverine) 10) able (C2) 57)
Satura Satura X Satura Sedin Drift D	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6)	icator is 12") ine) onriverin rine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizospheres Presence of Reduc Recent Iron Reduc	es (B1)dor (C along L red Iror tion in	3) 1) (w/in Living Roo n (C4) Plowed 3	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu	cators (2 c s (B1) (Riv reposits (B its (B3) (R atterns (B ⁻ atterns (B ⁻) Water Ta Surface (C rrows (C8	or more required) verine) 32) (Riverine) iverine) 10) able (C2) 57))
Surfac High N Satura Water Sedin Drift I Surfac	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) titon Visible on Aerial Image	icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R	es (B1 Ddor (C along L ed Iror tion in emarks	3) 21) (w/in Living Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation	cators (2 d s (B1) (Riv eposits (B its (B3) (R atterns (B Water Ta Surface (C rrows (C8 /isible on J	or more required) verine) 32) (Riverine) iverine) 10) able (C2) 57)) Aerial Imagery (C9)
Surfac High \ Satura X Water Sedin Drift I Surfac Inunda Water	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imagor r-Stained Leaves (B9)	icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R	es (B1)dor (C along L ed Iror tion in emarks	3) :1) (w/in Living Roo n (C4) Plowed : s)	- ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation V Shallow Aq	cators (2 d s (B1) (Riv reposits (B its (B3) (R atterns (B Water Ta Surface (C rrows (C8 /isible on uitard (D3)	or more required) verine) 32) (Riverine) iverine) 10) able (C2) 57)) Aerial Imagery (C9)
Surfac High V Satura Water Sedin Drift I Surfac Inunda Water	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9)	12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduc Recent Iron Reduc X Other (Explain in R	es (B1)dor (C along L red Iror tion in emarks	3) (1) (w/in iving Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 d s (B1) (Riv reposits (B its (B3) (R atterns (B Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5	or more required) verine) 32) (Riverine) iverine) 10) 30le (C2) 37)) Aerial Imagery (C9))
Surfac High V Satura X Water Sedin Drift I Surfac Inunda Water	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9)	icator is 12") ine) onriverin rine) ery (B7)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduc Recent Iron Reduc X Other (Explain in R	es (B1)dor (C along L ad Iror tion in emarks	3) :1) (w/in iving Roo n (C4) Plowed : s)	- ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 c s (B1) (Riv reposits (B its (B3) (R atterns (B3) Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5)	or more required) verine) 32) (Riverine) iverine) 10) 30) 30) 30) 37) 37) 37) 38) 39) 39) 30) 30) 30) 30) 30) 30) 30) 30) 30) 30
Surfac High \ Satura X Water Sedin Drift I Surfac Water Field Ob	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) 	icator is 12") ine) onriverin rine) ery (B7) Yes	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R Depth (es (B1 Ddor (C along L ed Iror tion in emarks inches):	3) C1) (w/in iving Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6)	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 c s (B1) (Rin reposits (B its (B3) (R atterns (B3) Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5)	or more required) verine) 32) (Riverine) iverine) 10) 30) 30) 30) 37) Aerial Imagery (C9) 33)
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Surfac High \ Satura X Water Sedim Drift I Surfac Inunda Water Field Ob Surface \ Water Ta Saturatio	ndicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) servations: Water Present? able Present? in Present?	icator is 12") ine) ponriverin rine) ery (B7) Yes Yes Yes	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X Depth (No X Depth (No X Depth (es (B1)dor (C : along L :ed Iror tion in emark: inches): inches): inches):	3) 21) (w/in 200 cond 200 cond	12") ts (C3) Soil (C6) Wetlar Prese	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aq FAC-Neutra	cators (2 c s (B1) (Rin reposits (B its (B3) (R atterns (B3) Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5	<u>or more required)</u> verine) 32) (Riverine) iverine) 10) 30) 34ble (C2) 37) 35) Aerial Imagery (C9) 35) <u>X</u> No
Surface V Sedin Sedin Drift D Surface Inunda Water Field Ob Surface V Water Ta Saturatio (includes c	Indicators (any one indicators (any one indicators (any one indicators) (ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) Intervations: Water Present? able Present? apilary fringe)	icator is 12") ine) ponriverin rine) ery (B7) Yes Yes Yes	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X Depth (No X Depth (No X Depth (No X Depth (es (B1 Ddor (C along L ed Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed S s)	12") ts (C3) Soil (C6) Wetlar Prese	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Season Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 c s (B1) (Rin reposits (B its (B3) (R atterns (B3) Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5	or more required) verine) 32) (Riverine) iverine) 10) 10) 10) 10) 10) 10) 10) 27) 27) 27) 27) 27) 27) 27) 27
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Surfac Satura Sedin Sedin Drift L Surfac Inunda Water Field Ob Surface N Water Ta Saturatio (includes c Describe R	Indicators (any one ind ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver nent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Image r-Stained Leaves (B9) Inservations: Water Present? able Present? able Present? apillary fringe) Recorded Data (stream gua	icator is 12") ine) onriverin rine) ery (B7) Yes Yes ge, moni	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X No X No X Oring well, aerial photos, previous in	es (B1 Ddor (C along L aed Iror tion in emarks inches): inches): inches): o determ spectior	3) C1) (w/in Living Roo n (C4) Plowed S s) Lination mination) ns), if avai	12") ts (C3) Soil (C6) Wetlar Prese	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra	cators (2 c s (B1) (Rim peposits (B its (B3) (R atterns (B3) Water Ta Surface (C rrows (C8 /isible on uitard (D3) at Test (D5 Yes	or more required) verine) verine) 10) 10) 10) 10) 10) 10) 10) 10
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Surface High V Satura Sedim Drift I Surface Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Remarks Texture and Texture and Texture and S - sand	Indicators (any one indice ce water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver inent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) tion Visible on Aerial Imager-Stained Leaves (B9) Inservations: Water Present? Water Present? Water Present? In Present? In Present? In Present? In Present? In Present? In Present? In Arted vegetation, grasses Content Content Content Content Content In Second Content Content In Second Content	icator is icator is 12") ine) ponriverin rine) ery (B7) Yes Yes ge, moni sess etiolo	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X Depth (Indicate the second	es (B1 Ddor (C along L ed Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed : s) ination) ination) s) if avai scl - sandy cl - clay lo	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aq FAC-Neutra dHydrology nt? Rock Fragmen gr - gravelly ygr - very grave	ts	<u>or more required)</u> verine) (2) (Riverine) (10) (10) (10) (10) (11) (11) (12) (1
Surface High V Satura X Water Sedim Drift I Surface Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Remarks	Indicators (any one indice one indice of the	icator is ine) onriverin rine) ery (B7) Yes Yes ge, moni sees etiola	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X Depth (No X No X No X Depth (No X Depth (No X Depth (No X Depth (SI - sandy loam fsl - fine sandy loam vfsl - very fine sandy loam	es (B1 Ddor (C along L ed Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed : s) ination) ination) ination) scl - sandy cl - clay lo sicl - sitty of	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage Pa Dry-Season Thin Muck S Crayfish Bu Saturation \ Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 c s (B1) (Riv reposits (B its (B3) (R atterns (B) Water Ta Surface (C rrows (C8 /isible on uitard (D3) al Test (D5 Yes Yes	xcb - extremely cobbly st - stony vst - very stony
Surface High V Satura X Water Sedim Drift I Surface Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Remarks Texture and Texture and fs - fine sand vfs - very fin	Indicators (any one indicators (any one indicators (any one indice ce Water (A1) Water Table (A2) (w/in ation (A3) r Marks (B1) (Nonriver inent Deposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) ition Visible on Aerial Image r-Stained Leaves (B9) iservations: Water Present? able Pres	icator is icator is 12") ine) onriverin rine) ery (B7) Yes Yes ge, moni ses etiola rse sand and fine sand	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduct Recent Iron Reduct X Other (Explain in R No X No X Depth (No X No X Depth ((12 incl oring well, aerial photos, previous in sl - sandy loam fsl - fine sandy loam vfsl - very fine sandy loam vfsl - very fine sandy loam vfsl - very fine sandy loam	es (B1 Ddor (C along L ed Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed 5 s) s) s) s) s) scl - sandy cl - clay lo sicl - sitty sc - sandy	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 c s (B1) (Riv reposits (B its (B3) (R atterns (B) Water Ta Surface (C rrows (C8 /isible on , uitard (D3) al Test (D5 Yes Yes	xcb - extremely cobbly st - stony vst - extremely stony
Surface High V Satura X Water Sedim Drift I Surface Inunda Water Field Ob Surface V Water Ta Saturatio (includes c Describe R Remarks Remarks Texture and Texture and fs - fine sand vfs - very fin	Indicators (any one indicators (any one)) where the second of	icator is ince) onriverin rine) ery (B7) Yes Yes ge, moni ses etiola rse sand fine sand didy loam	sufficient) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrat Hydrogen Sulfide C e) Oxidized Rhizospheres Presence of Reduc Recent Iron Reduc X Other (Explain in R No X Depth (No X Depth ((12 incl oring well, aerial photos, previous ir teted due to water stress	es (B1 Ddor (C along L red Iror tion in emarks inches): inches): inches):	3) C1) (w/in Living Roo n (C4) Plowed S s) s) scl - sand cl - clay lo sic - sity sc - sandy sic - sity	12") ts (C3) Soil (C6) Wetlar Prese lable:	Secondary Indi Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shallow Aq FAC-Neutra d Hydrology nt?	cators (2 c s (B1) (Rim reposits (B its (B3) (R atterns (B) atterns (B) Water Ta Surface (C rrows (C8 /isible on uitard (D3) at Test (D5 Yes yes	or more required) vverine) vverine) vverine) vverine) 10) able (C2) 27) Aerial Imagery (C9) j) X No xcb - extremely cobbly st - stony vst - very stony xst - extremely stony

4/23/2008
WETLAND DETE

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WETLAND DETERMINATION FORM - Arid West Region

Jones & Stor	kes										
Project/Site:	East-West C	Connector			City/Count	y: Alameda	1		Data Point:	2C-9	
Applicant/Owner:	ACTA						State:	CA	Date:	3/25/2008	
Investigator(s):	R. Preston				Section,	Township,	Range:		T4WS, R1W	1	
Landform (hillslop	e, terrace, etc.):	basin		Loc	al relief (cor	ncave, conv	ex, none): <mark>c</mark>	convex	[Slope (%):	0
Subregion (LRR):		;		Lat:		Long:				Datum:	
Soil Map Unit Nan	ne: Clear I	Lake clay, 0-2%	% slopes					NWI cl	assification:		
Are climatic / hydr	rologic conditions	on the site typic	cal for this tim	ne of year?	Yes	х	No		(If no, expla	in in Remar	ks)
Are Vegetation	Soil	or Hydrology		significanly	disturbed?	Are "Norma	al Circumst	ances"	present?	✓ YES	
Are Vegetation	Soil X	or Hydrology		naturally pro	blematic?	(If need	led, explain	n any ar	nswers in Re	emarks)	
SUMMARY C	OF FINDINGS	- Attach site r	nap showing	g sampling p	oint locatio	ons, transe	cts, import	tant fea	atures, etc.		
Hydrophytic Vege	tation Present?	Yes	No	X							
Hydric Soil Preser	nt?	Yes	No X			Is the Sampled Area					
Wetland Hydrolog	y Present?	Yes	No	X		within a w	etland?	Yes		No	X
	Upland area within	recently develope	d wetlands								
VECETATIO	N										
VEGETATIO	IN		Absolute	Dominant	Indicator	Domina	ance Test	worksł	neet:		
Tree Stratum (scie	entific names) woo	dy plants >3" dbh	% Cover	Species?	Status						
1.						Number of Dominant Species					()
2.						That are	e OBL, FAG	CW, or	FAC:	0	(A)
3. A						Total N	umber of D	ominar	nt		
4.		Total Cover:				Species	s Across Al	l Strata	:	2	(B)
Sapling/Shrub Str	atum (woody plar	nts <3"dbh)									()
1.						Percent	t of Domina	ant Spe	cies		
2.						that are	OBL, FAC	W, or F	FAC	0%	(A/B)
3.											
4. F						Prevale	ence index	works	sheet	ly by:	
5.		Total Cover:						01.		лу by	
Herb Stratum (nor	n-woody plants re	Total Cover.							x 1 =	0	
1 Bromus diandrus	n-woody plants, re		40	V	LIPI	FAC sp			x 3 -	0	
2 Geranium dissectur	m		50	Y		FACUS			x 4 =	0	
3 Avena fatua			10	N			ecies		x 5 =	0	
4. Picris echioides			<1	N	FAC	Columr	Total:)	(A)	0	(B)
5. Beta vulgaris			<1	N	UPL		Prevale	nce Inc	lex = B/A =	#DIV/0!	(-)
6. Lactuca serriola			<1	N	FAC						
7.						Hydrop	hytic vege	etation	indicators		
8.							Dominance	e test is	>50%		
		Total Cover:	100%				Prevalence	index	is <u><</u> 3.0 ¹		
)					Morphologi	ical ada	aptations ¹ (P	rovide supporti	ing
woody vine Strat	um (regardless of	<u>size)</u>					data in Rema	rks or or	a separate sh	ieet)	1
2						1		u nyara		tauon (Exp	nam)
۷.		Total Cauar				indicat		IC SOIIS	and wetland	a nyarology	
		Total Cover:				- معامريا	hust be pr	eseni			
% Poro ground in	Harb Stratum		Cover of Di	atio Cruct		Пуагор	tion				
70 bare ground in	neib Silatum	%	o Cover of Big			vegeta	uon				

Remarks:

US Army Corps of Engineers

No

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Yes

Present?

SOIL										Data point	2C-9		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)													
Depth Matrix						Featu	ires						
(inches)	Color (mois	t) %	C	olor (moist)	- riouo,	%	Type ¹	1 oc^2	Contrast ³	Texture	Comments		
0.40		, ,,	,			70	Type	200	Contract	1 Oxtor O	Commente		
0-18	101R 3/1									C			
	m_Concentration	a off moo		acontration	nodulo/c	onoro	tion: D-	 Doplation	N PM-Roduced	Motrix			
ype. U-m=Uoncentration - soit mass; U-n=Uoncentration - nodule/concretion; D=Depletion; KM=Reduced Matrix													
Hvdric S	oil Indicators: (A	policable to	all LRRs. u	inless other	wise note	ed.)	1401. 1–1	ant, a–a	Indicators for F	roblematic	Hvdric Soils: ⁴		
Histosol (A1) Sandy Redox (S5)							1 cm Muck	(A9) (LRR	C)				
Histic	Epipedon (A2)			Stripped N	atrix (S6))		2 cm Muck (A 10) (LRR B)					
Black	Histic (A3)			Loamy Mu	cky Mine	, ral (F1)		Reduced Vertic (F18)				
Hydro	gen Sulfide (A4)			Loamy Gle	eyed Matr	ix (F2))		Red Parent Material (TF2)				
Stratif	fied Layers (A5) (I	RR C)		Depleted N	/latrix (F3	3)		Other (Explain in Remarks)					
Deple	ted Below Dark S	urface (A11)	Redox Dar	k Surface	e (F6)							
Thick	Dark Surface (A1	2)		Depleted E	Dark Surfa	ace (F	7)	Listed on National/Local Hydric Soils List					
Sandy	y Mucky Mineral (S1)		Redox Dep	pressions	; (F8)		⁴ Indicators of hydrophytic vegetation and					
Sandy	Sandy Gleyed Matrix (S4) Vernal Pool (F9) wetland hydrology must be present								sent				
Restrictive	Layer (if present):												
Depth	(inches):							Hydrid	Soil Present?	Yes	No X		
Remarks	· · ·							Ľ					
rtomanto													
	<u></u>												
HYDR	OLOGY												
Primary i	ndicators (any on	ators: e indicator i	s sufficient)					Secondary Ind	icators (2 c	r more required)		
Surfa	ce Water (A1)		o oumoient	Salt Crust	(B11)			-	Water Mark	(B1) (Riv	verine)		
High Water Table (A2) (w/in 12")				Biotic Crust (B12)					Sediment Deposits (B2) (Riverine)				
$\frac{1}{2}$				Aquatic Invertebrates (B13)					Drift Deposits (B3) (Riverine)				
Water Marks (B1) (Nonriverine)				Hydrogen Sulfide Odor (C1) (w/in					12") Drainage Patterns (B10)				
Sediment Deposits (B2) (Nonriverine)				Oxidized Rhizospheres along Living Roc					ots (C3) Dry-Season Water Table (C2)				
Drift Deposits (B3) (Nonriverine)				Presence of Reduced Iron (C4)						ick Surface (C7)			
Surface Soil Cracks (B6)				Recent Iron Reduction in Plowed Soil (C6)						Crayfish Burrows (C8)			
Inundation Visible on Aerial Imagery (B7)				Other (Explain in Remarks)						າ Visible on Aerial Imagery (C9)			
Water-Stained Leaves (B9)									Shallow Aq	uitard (D3)			
									FAC-Neutra	al Test (D5)		
Field Ob	servations:												
Surface \	Nater Present?	Yes	No	X	Depth (ii	nches):							
Water Ta	ble Present?	Yes	No	X	Depth (ir	nches):		Wetlar	nd Hydrology				
Saturatio	n Present?	Yes	No	X	Depth (ii	nches):		Prese	nt?	Yes	No X		
(includes c Describe R	apillary fringe) ecorded Data (strear	n quage mon	itoring well a	erial photos r	(12 inch	determ	iination) ns) if avai	lable:					
2000112011		n gaage, men	noning from, e	kondi priotoo, p		speener	.o), .: ara						
Pomorke													
Remarks													
Texture and	d Rock Fragment Con	tent											
Texture	-								Rock Fragmer	nts			
cos - coarse	sand Icos - Ioan	y coarse sand		sl - sandy loar	n , loom		scl - sand	y clay loam	gr - gravelly		xcb - extremely cobbly		
s - sand fs - fine sand	and Ifs - loamy fine sand			tsi - fine sandy loam cl - clay loa vfsi - very fine sandy loam sicl - silty			clay loam	vgr - very grave xgr - extremely	gravellv	si - siony vst - very stonv			
vfs - very fin	s - very fine sand lvfs - loamy very fine sand			I - loam	loam sc - sandy loan sc - sandy (cb - cobbly	J	xst - extremely stony		
	cosl - coar	se sandy loam		sil - silt loam			sic - silty o	clay	vcb - very cobb	ly			
				sı - silt			c - clay						

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Appendix D Representative Site Photographs



Photo 1. Alameda Creek, looking upstream at Paseo Padre Parkway.



Photo 2. Alameda Creek, looking downstream at Paseo Padre Parkway.





Photo 3. Adventitious roots on willow in Historic Alameda Creek.





Appendix D Photographs